No.01

Oki Data CONFIDENTIAL

C9400/C9200
Color LED Page Printer
Maintenance Manual
(ODA/OEL/INT)

[Rev. 10]

Related drawings

Drawing No.	Name
41388601TL	C9400/C9200 Disassembly for Maintenance
41388601TR	C9400/C9200 RSPL

BOM	Use for	Certification Body	

Rev	Date	DCO No.	Contents	Design	Approval
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Approval	Design	Name
Akio Kikuchi	Tomoyo Sugiyama	C9400/9200 (ODA/OEL/INT) Maintenance Manual
Check: Yoshinori Fujisawa		
Date: 2004-04-23	Oki Data Corporation	Drawing No. 41388601TH

Document Revision History

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2	2000-12-13	8		Correction of errors in the parts list	K Yamazaki
3	2001-05-15				CN11 Kasuya
4	2001-10-12				K Yamazaki
5	2002-11-27				K Yamazaki
6	2002-12-10				NP34 Ueda
10	2004-04-23			Harmonization of the Rev.No. for registration in the new system.	EP T.Sugiyama

PREFACE

This maintenance manual provides procedures and techniques for the troubleshooting, maintenance, and repair of C9400/C9200.

This manual is written for maintenance personnel, but it should always be accompanied with the C9400/C9200 User's Manual for procedures for handling and operating C9400/C9200. For repairing each component of C9400/C9200, see the Troubleshooting manual.

[Notices]
The contents of this manual are subject to change without prior notice.
Although reasonable efforts have been taken in the preparation of this manual to assure its accuracy, this manual may still contain some errors and omissions. OKI will not be liable for any damage caused or alleged to be caused, by the customer or any other person using this maintenance manual to repair, modify, or alter C9400/C9200 in any manner.

[Warning]
Many parts of C9400/C9200 are very sensitive and can be easily damaged by improper servicing. We strongly suggest that C9400/C9200 be serviced by OKI's authorized technical service engineers.

CONTENTS

1. SPECIFICATIONS

1.1 Basic System Configuration

The basic system configuration of C9400/C9200 is illustrated in Figure 1.1.

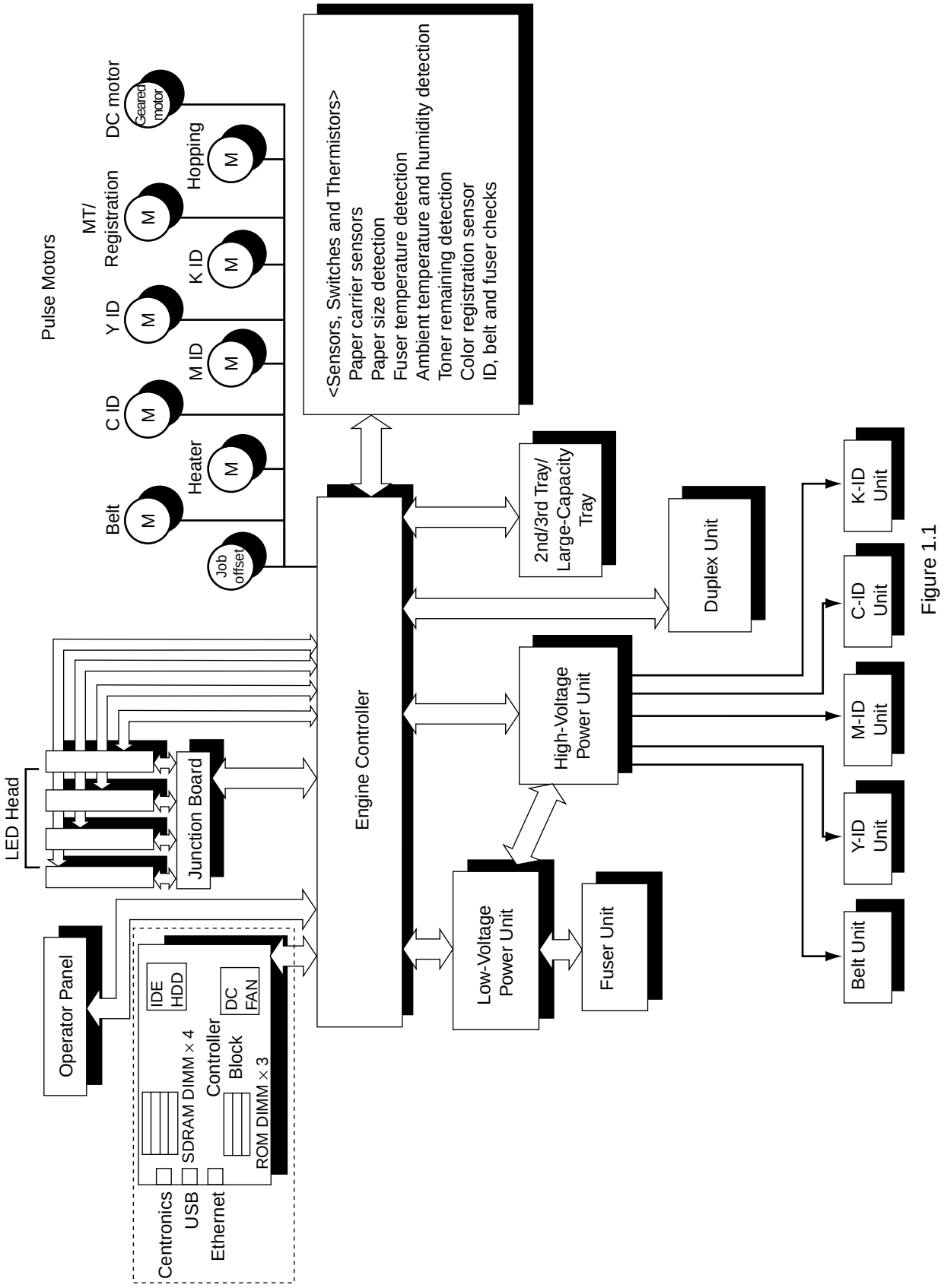


Figure 1.1

1.2 Printer Engine Specifications

The inside of the printer is composed of the followings:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High-Voltage Unit and Low-Voltage Unit)

Figure 1-2 shows the printer configuration.

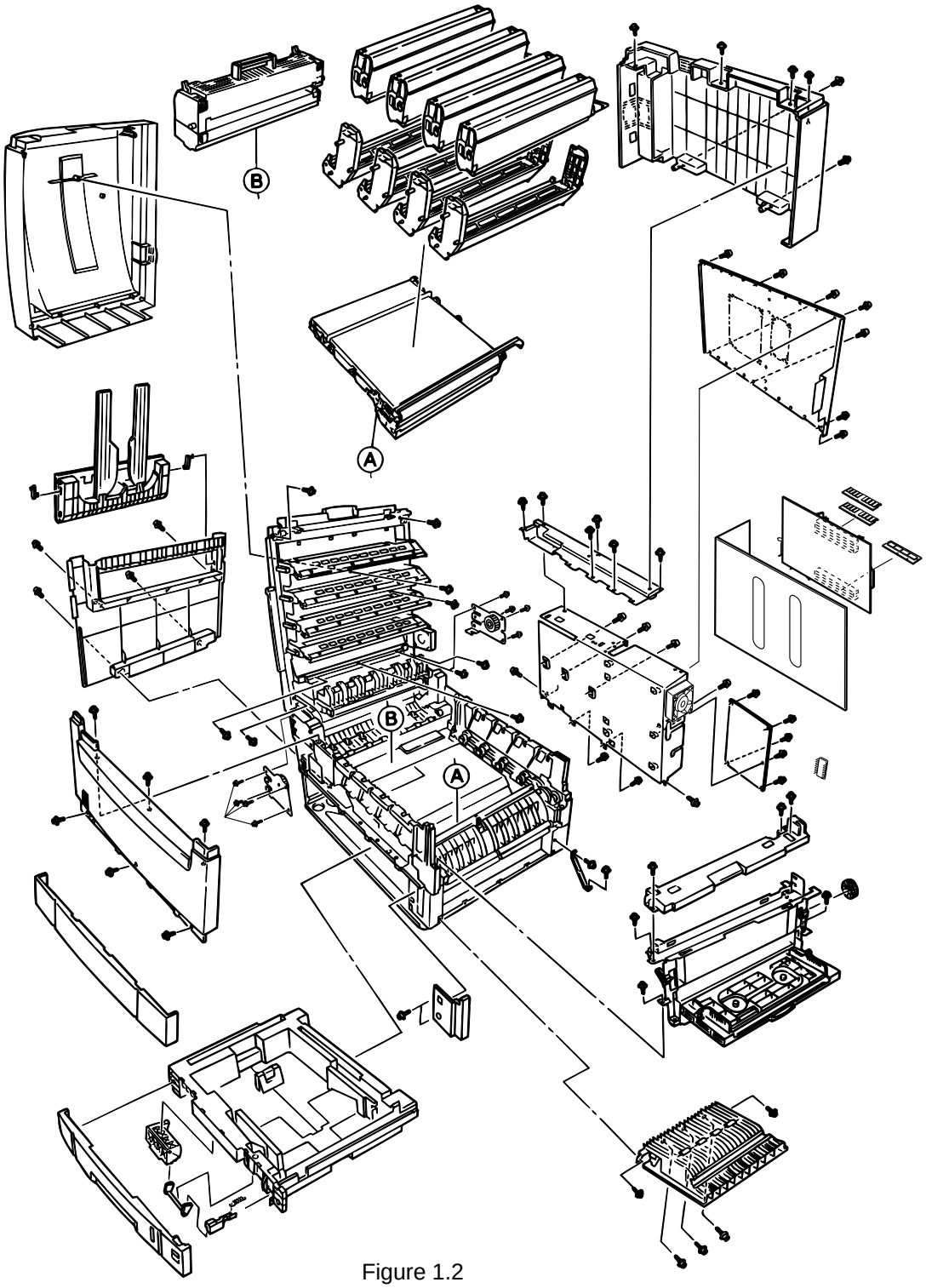
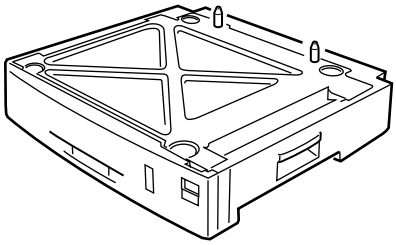


Figure 1.2

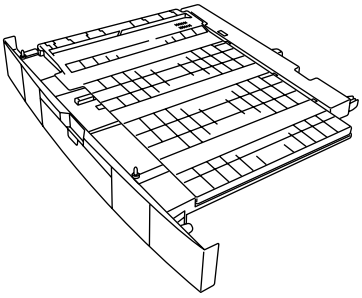
1.3 Option Configuration

The followings are available as options on C9400/C9200.

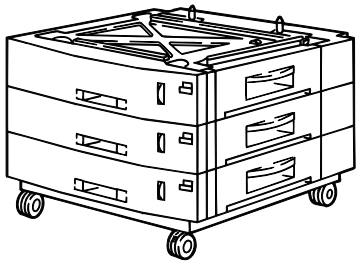
(1) 2nd Tray/ 3rd Tray



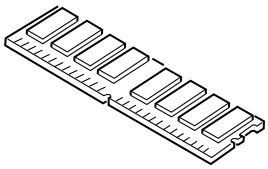
(2) Duplex Unit

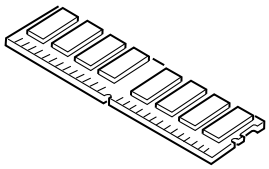


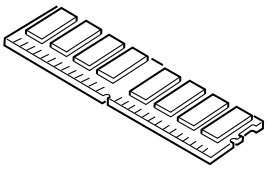
(3) Large-Capacity Tray



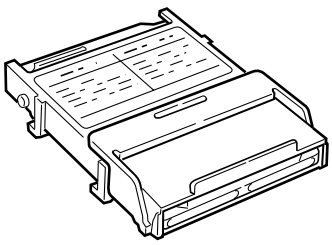
(4) Expansion Memory 64/128/256MB



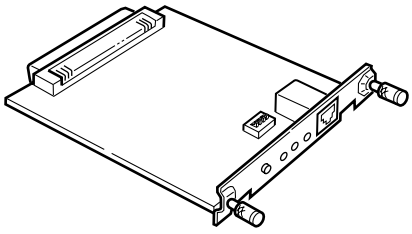




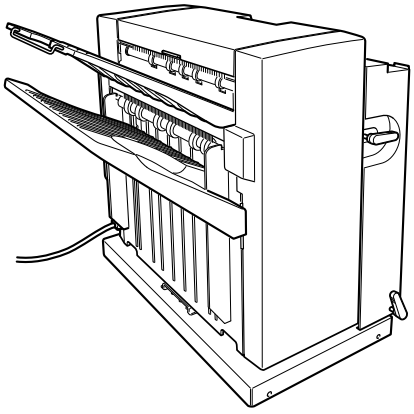
(5) Internal Hard Disk



(6) Ethernet Board



(7) Finisher Unit (for C9400/C9200 OEL/INT Version)



1.4 Specifications

(1) Dimensions Height: 460mm Width: 666mm Length: 626mm

(2) Weight 72kg

(3) Paper
Type: Ordinary paper and transparencies (Recommended: ML OHP01)
Size: Postal card, Legal 13" or 14", Executive, A4, A5, B5, A6, A3 A3-Nobi, B4 (Only the 1st tray and the front feeder support A6 and postal card sizes.)
Weight: 1st tray 55 kg to 90 kg (64 to 105g/m^2)
Front feeder 55 kg to 140 kg (64 to 163g/ m^2)

(4) Print Speed Color: 21 pages per minute (Transparency: 5 pages per minute)
Monochrome: 26 pages per minute (Transparency: 15 pages per minute)
Postal Card, Label, Thick Paper: 10 pages per minute

(5) Resolution 600 × 600 dots per inch

(6) Power Input 100VAC ±10%

(7) Power Consumption Peak: 1400W Normal Operation: 550W (5% duty)
Idle: 150W Power Saving Mode: 50W

(8) Frequency 50Hz or 60Hz ± 2%

(9) Noise Operating: 54 dB (without Second tray)
Standby: 45 dB
Power Saving: 43 dB

(10) Consumable Life Toner Cartridge: 7,500 pages (5% duty)
Large-Capacity Toner Cartridge: 15,000 pages (5% duty) (in each of Y, M, C and K)
Image Drum: 39,000 pages (5% duty, Continuous printing) (in each of Y, M, C and K)

(11) Parts Replaced Periodically Fuser Unit Assy: Every 80,000 pages
Belt Cassette Assy: Equivalent of 80,000 pages (3P/J)
Transfer Belt cartridge: 60,000 prints

(12) Temperatures and Relative Humidities

Temperature

	Temperature (ºF)	Temperature (ºC)	Remark
Operating	50 to 89.6	10 to 32	17 to 27ºC (Temperatures to assure full color print quality)
Non-Operating	32 to 109.4	0 to 43	Power-off
Storage (Max. One Year)	-14 to 109.4	-10 to 43	With drum and toner
Transport (Max. One Month)	-20 to 122	-29 to 50	With drum and without toner
Transport (Max. One Month)	-20 to 122	-29 to 50	With drum and toner

Humidity

	Relative Humidity (%)	Max. Wet-Bulb Temperature (ºC)	Remark
Operating	20 to 80	25	50 to 70% (Humidities to assure full color print quality)
Non-Operating	10 to 90	26.8	Power-off
Storage	10 to 90	35	
Transport	10 to 90	40	

(13 Printer Life 1,000,000 pages (on a A4 basis) or five years

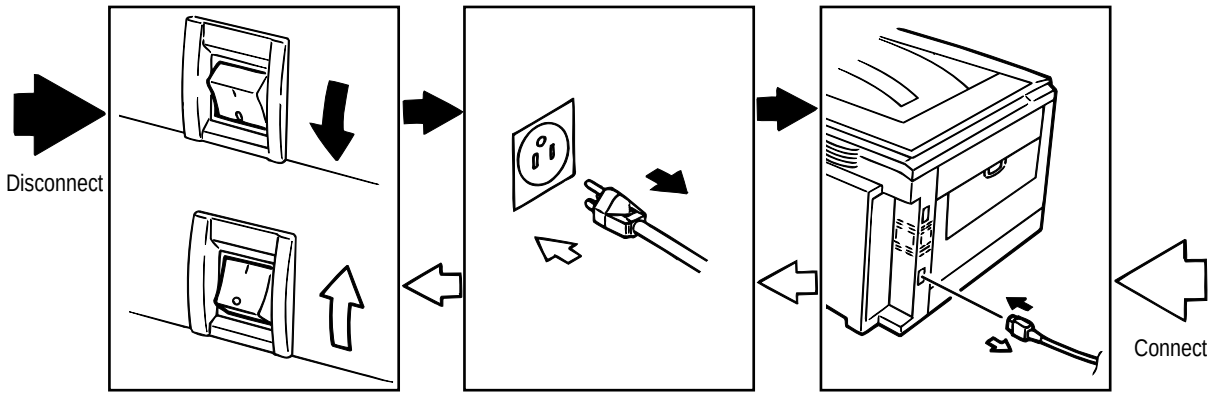
2. PARTS REPLACEMENT

This section describes the procedure for replacing the parts, assemblies and units in the field. The replacing procedure is given for detachment. To attach, use the reverse procedure.

2.1 Precautions in Replacing Parts

(1) Before replacing the parts, be sure to remove the CA cable and the interface cable.
   (a) To remove the AC cable, always use the following procedure.
      ① Flip the power switch of the printer off (to "O").
      ② Pull the AC inlet plug of the AC cable out of the AC receptable.
      ③ Remove the AC cable and the interface cable from the printer.

   (b) To connect the printer again, always use the following procedure.
      ① Connect the AC cable and the interface cable to the printer.
      ② Insert the AC inlet plug into the AC receptacle.
      ③ Flip the power switch of the printer on (to "I").

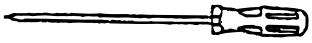
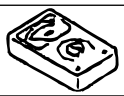
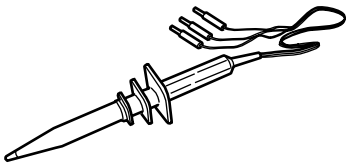


(2) Do not disassemble the printer so long as it operates properly.
(3) Minimize the disassembly. Do not detach parts other than those shown in the replacing procedure.
(4) For maintenance applications, use designated tools.
(5) Follow the order instructed to disassemble the printer. Incorrect order may damage the parts.
(6) Small parts such as screws and collars tend to get lost, so temporarily place and fix them in their original positions.
(7) When handling ICs and circuit boards such as microprocessors, ROMs and RAMs, do not use gloves that likely to have static.
(8) Do not place the printed circuit boards directly on the printer or the floor.

[Maintenance Tools]

Table 2-1 lists tools necessary to replace the units.

Table 2-1 Maintenance Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		No. 1-100 Philips screwdriver	1	2~2.5 mm screws	
2		No. 2-200 Philips screwdriver, Magnetized	1	3~5 mm screws	
3		No. 3-100 screwdriver	1		
4		No. 5-200 screwdriver	1		
5		Digital multimeter	1		
6		Pliers	1		
7		Handy cleaner	1		
8		LED Head cleaner P/N 4PB4083-2248P001	1	Cleans LED head	
9		High voltage probe	1		

2.2 Parts Layout

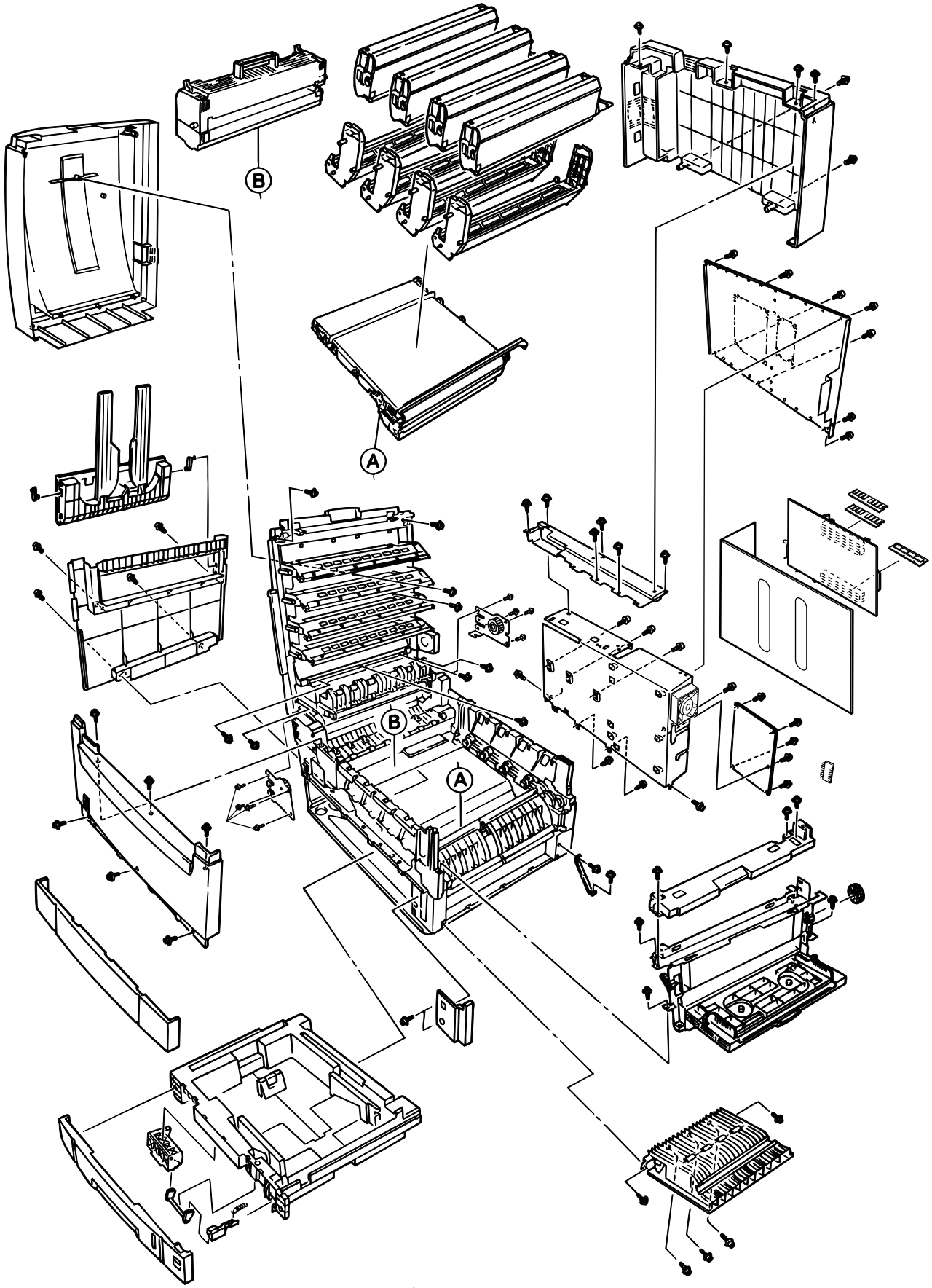


Figure 2.1

[Top Cover Assy]

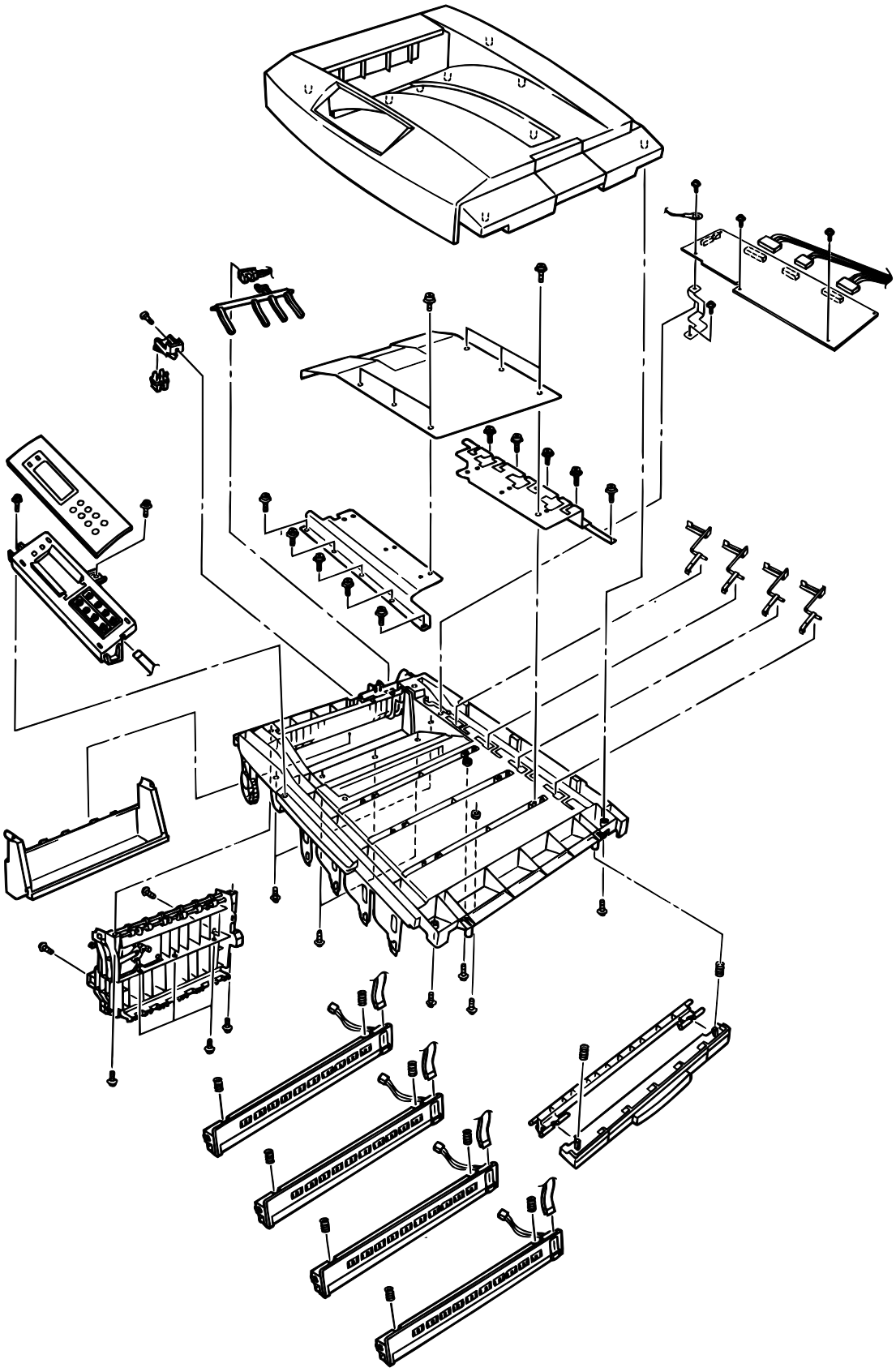


Figure 2.2

[Printer Unit-1/2]

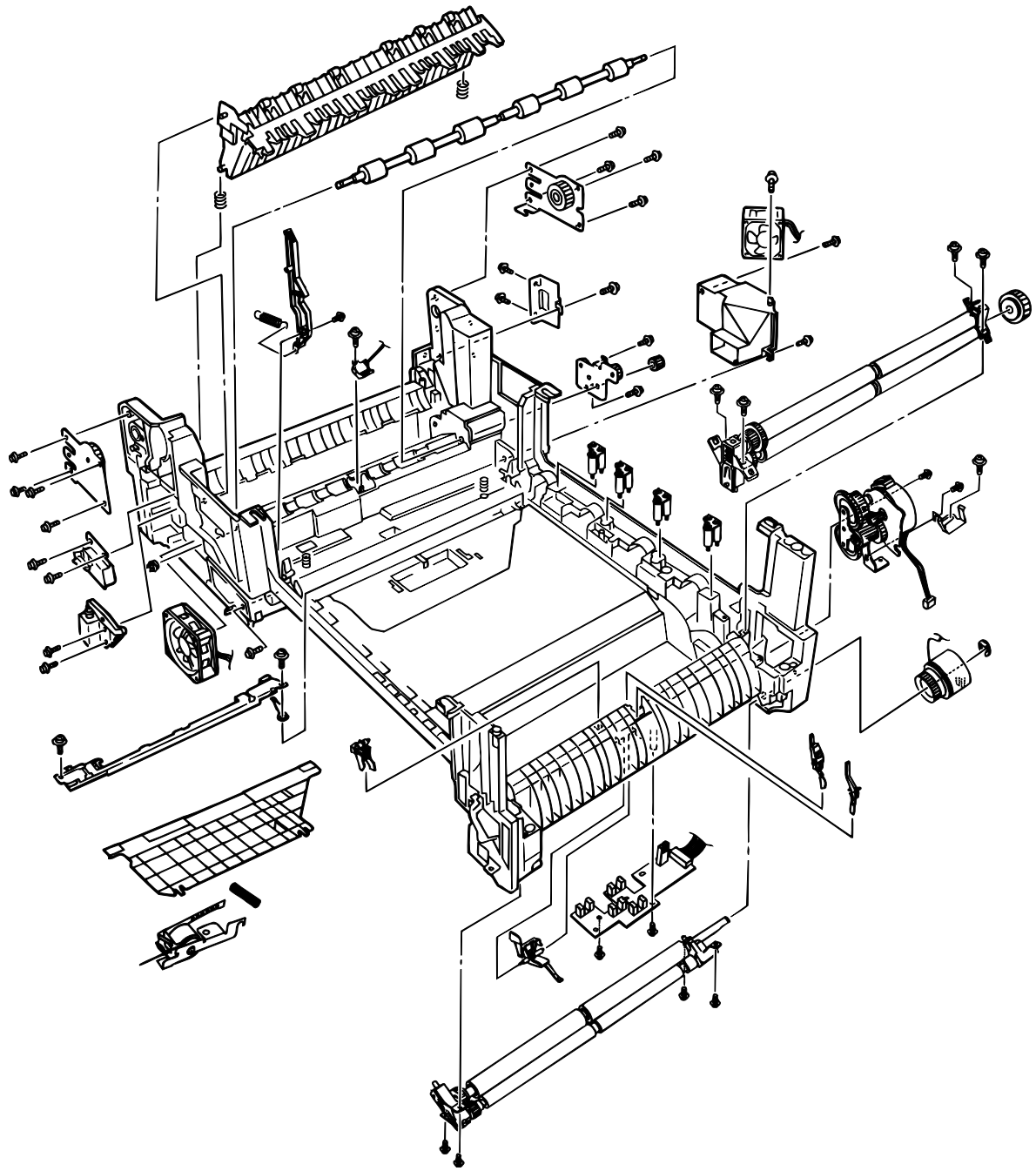


Figure 2.3

[Printer Unit-2/2]

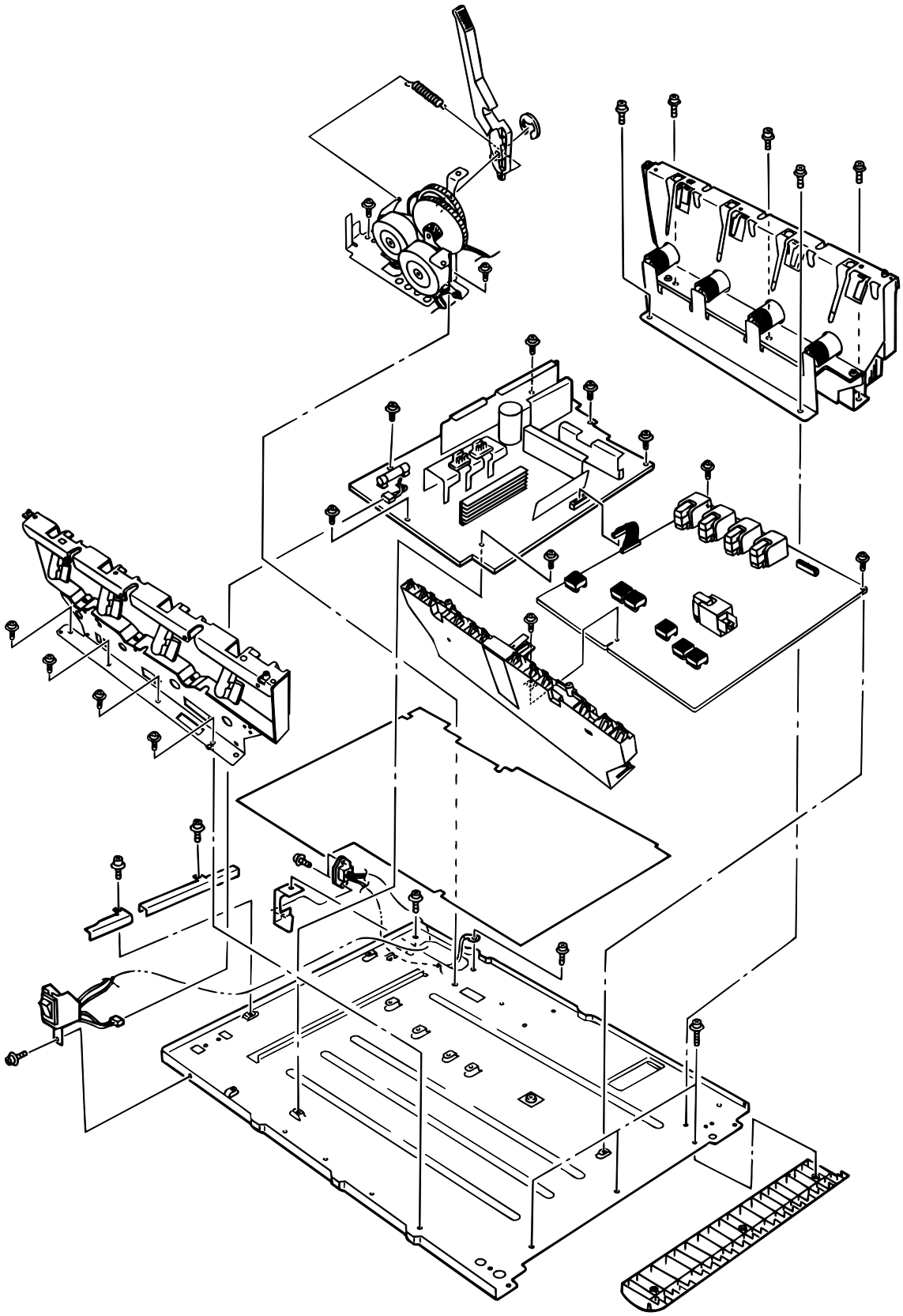


Figure 2.4

[Cassette Guide Assy (L), (R)]

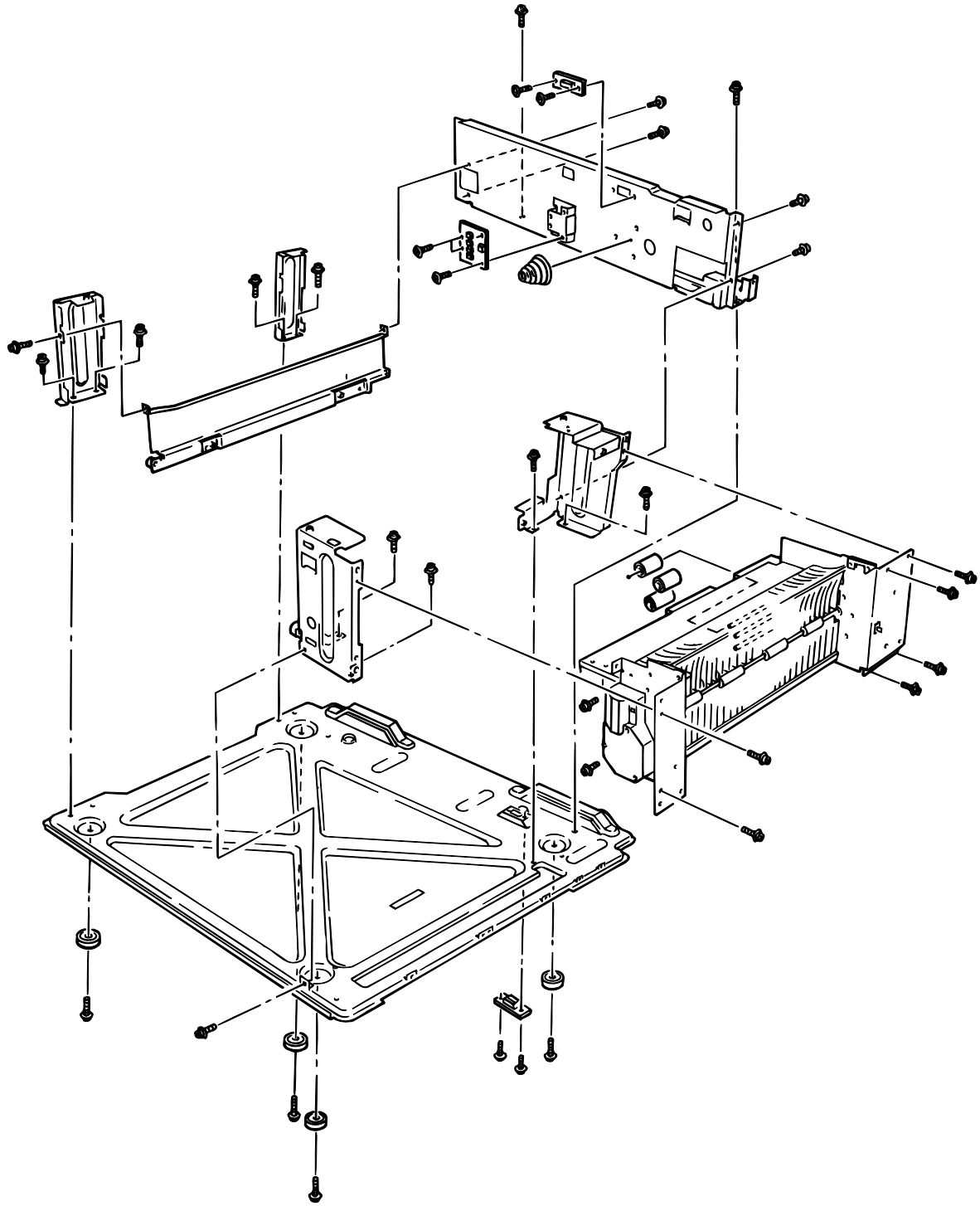


Figure 2.5

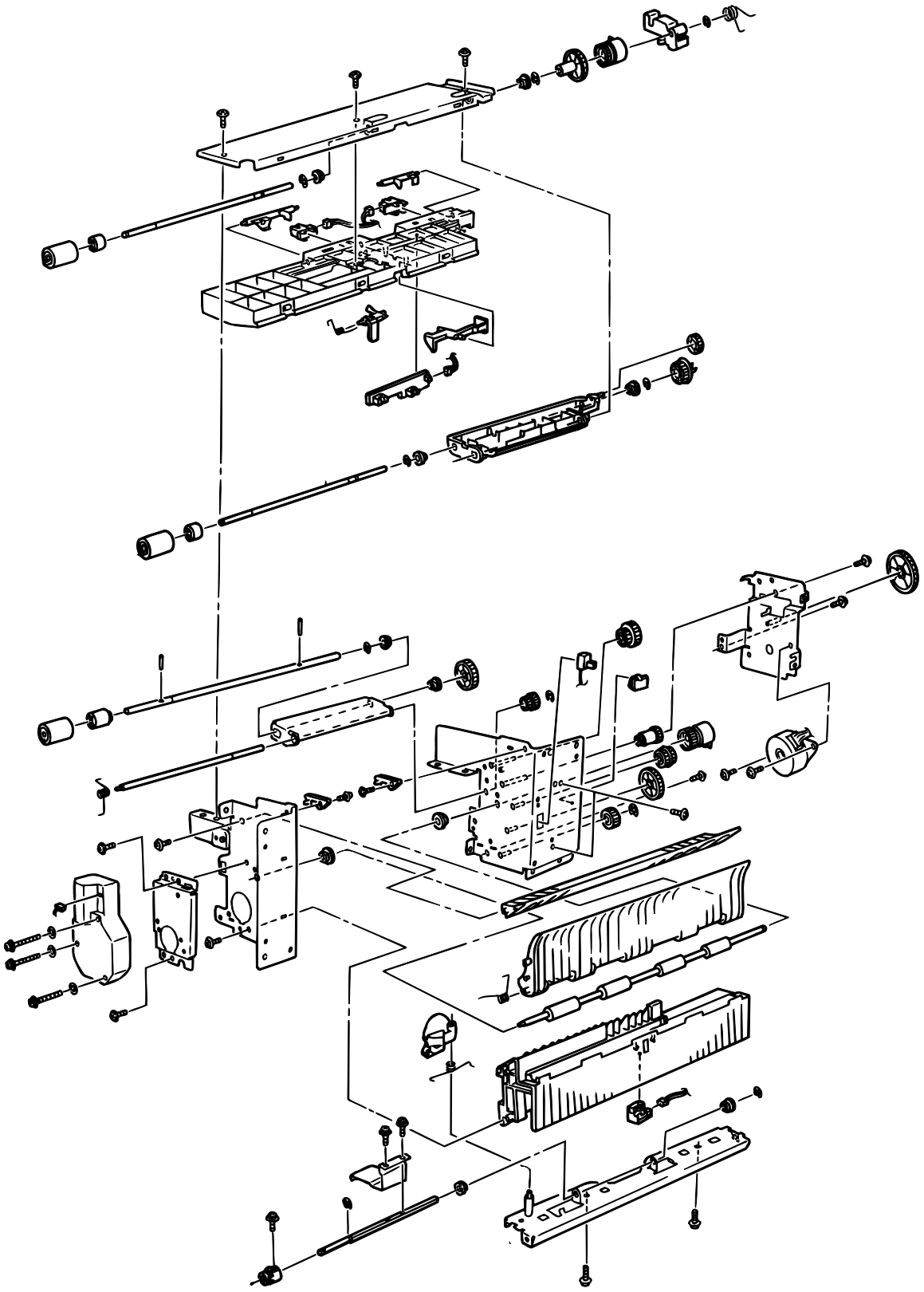


Figure 2.6

[Duplex Unit]

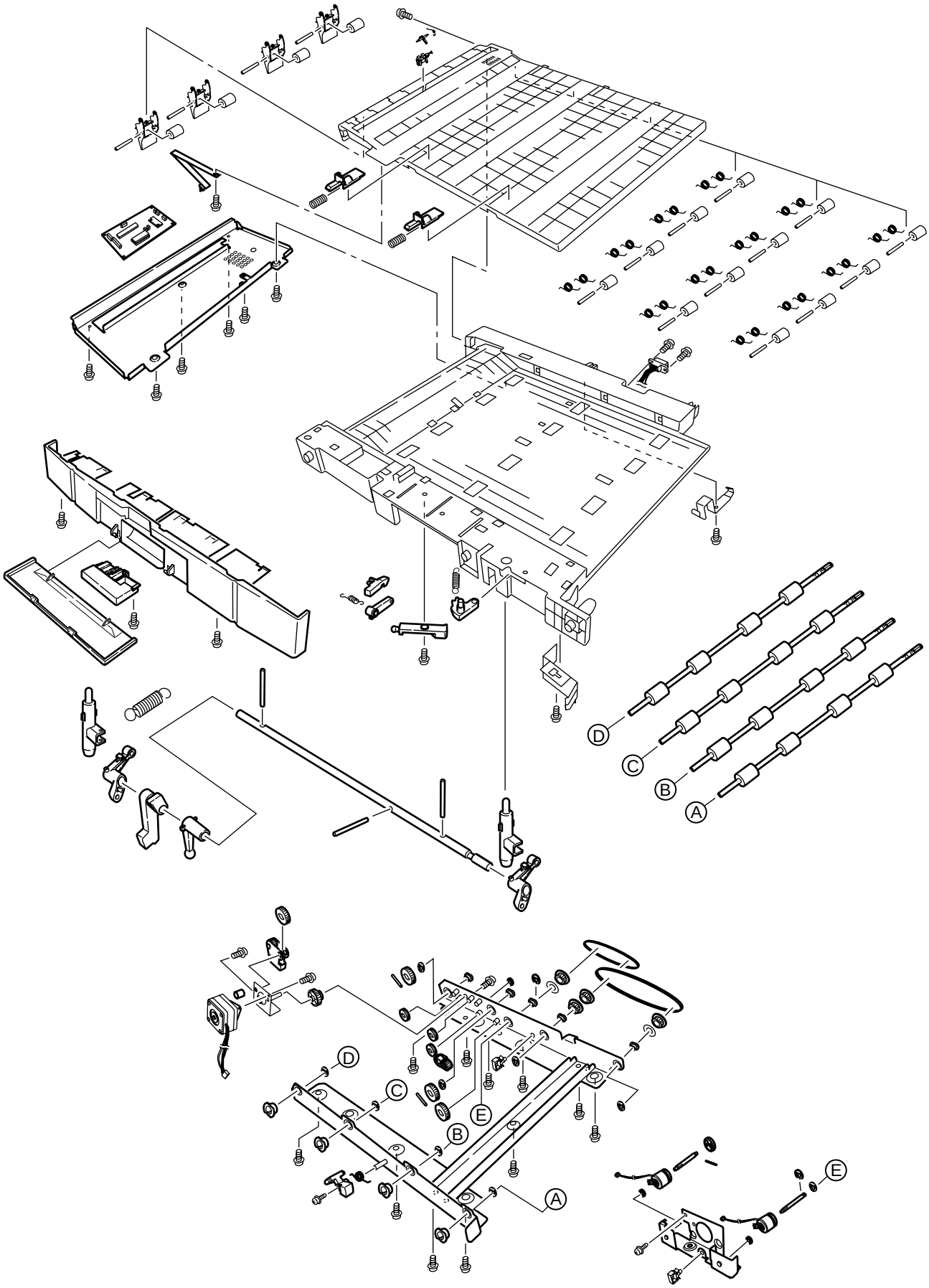
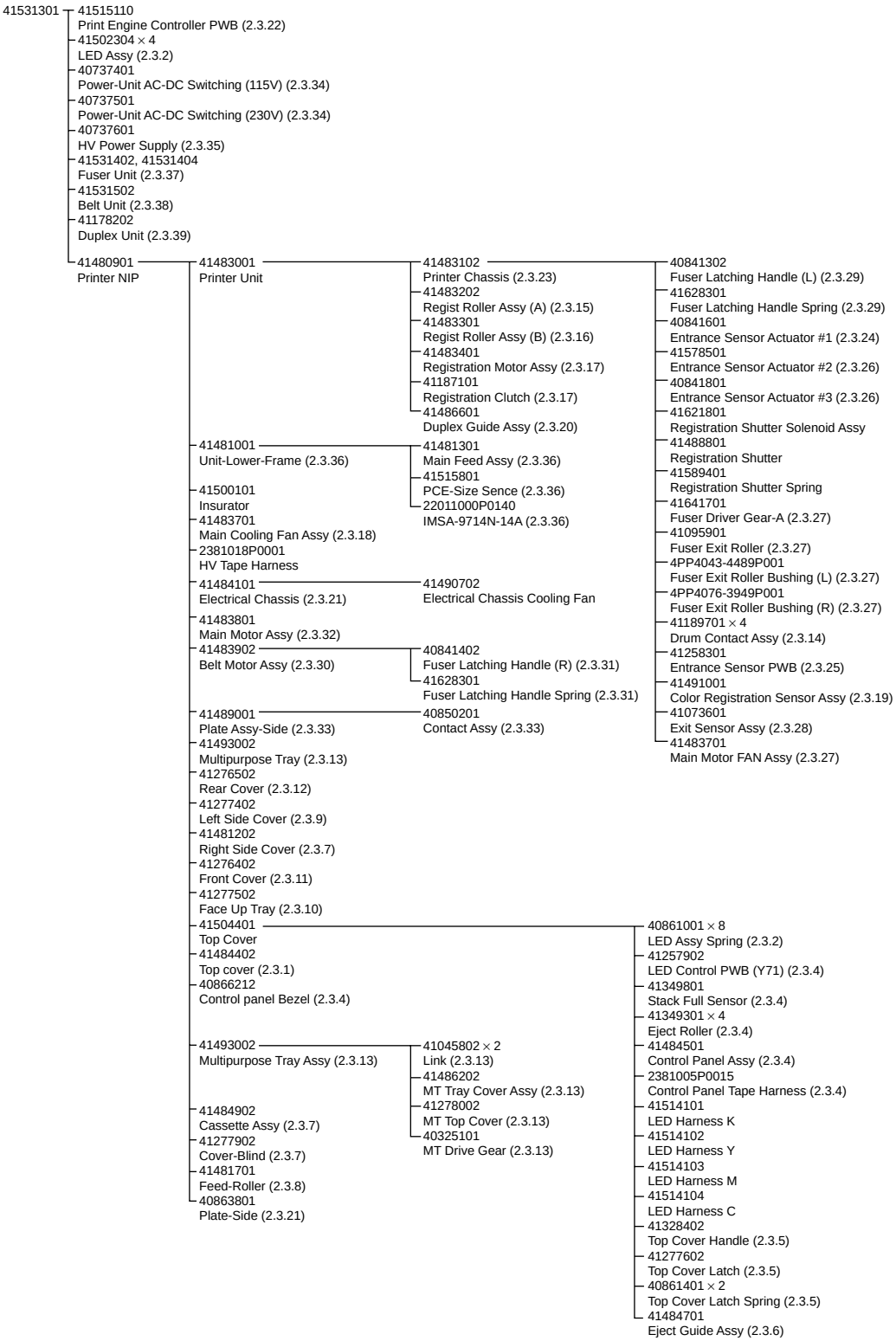


Figure 2.7

2.3 Replacing Parts

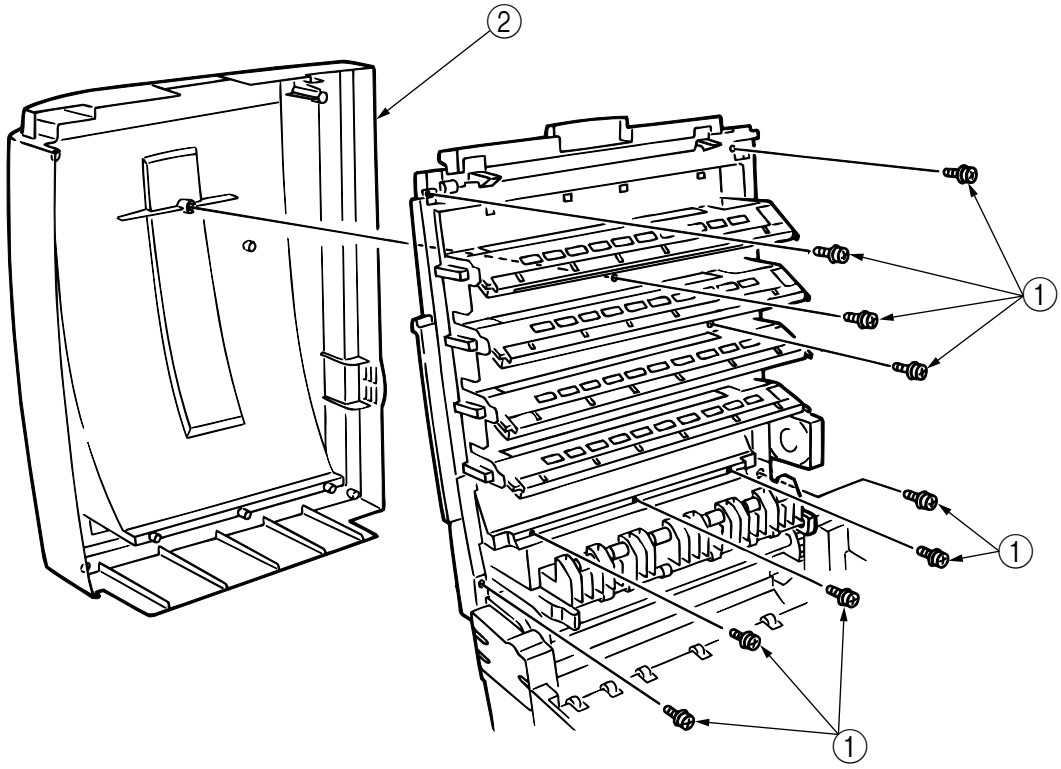
This section describes how to replace the parts and assemblies illustrated below.



2.3.1 Top cover

(1) Open the top cover Assy.

(2) Remove the nine screws ① to detach the top cover ②.



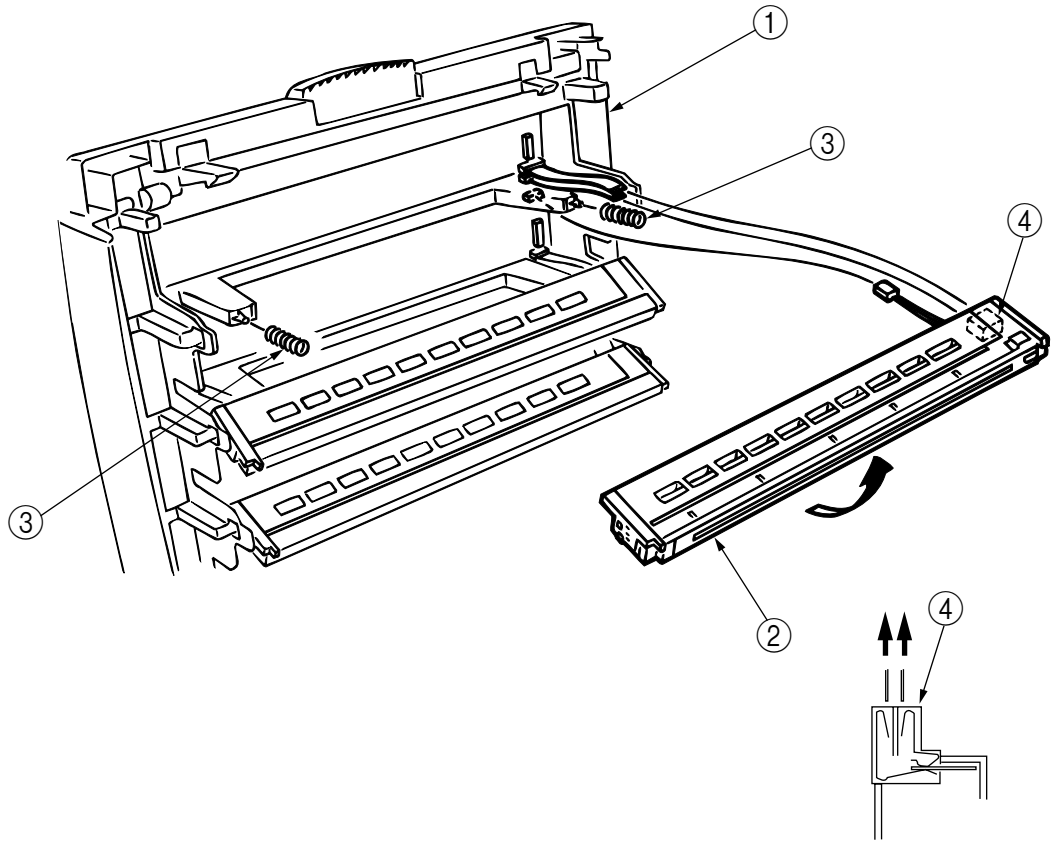
2.3.2 LED Assy/ LED Assy spring

(1) Open the top cove ①.

(2) Remove the three cables, and unhook the LED Assy ② at the two places to demount it (The two springs ③ become detached together with the LED Assy ②).

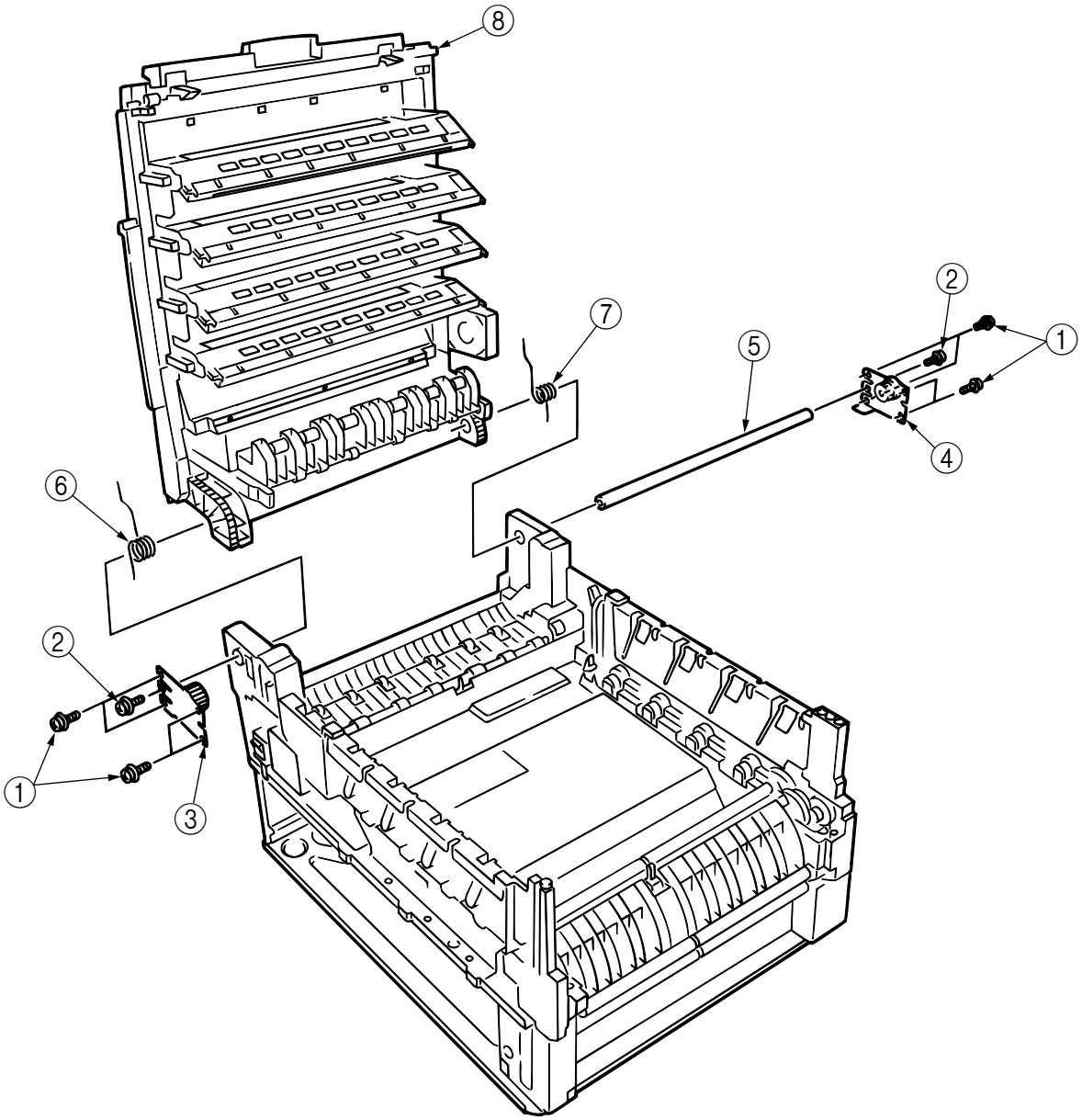
(3) Detach the LED connector ④.

When assembling, attach the LED connector ④ to the LED head and insert the flat cable.



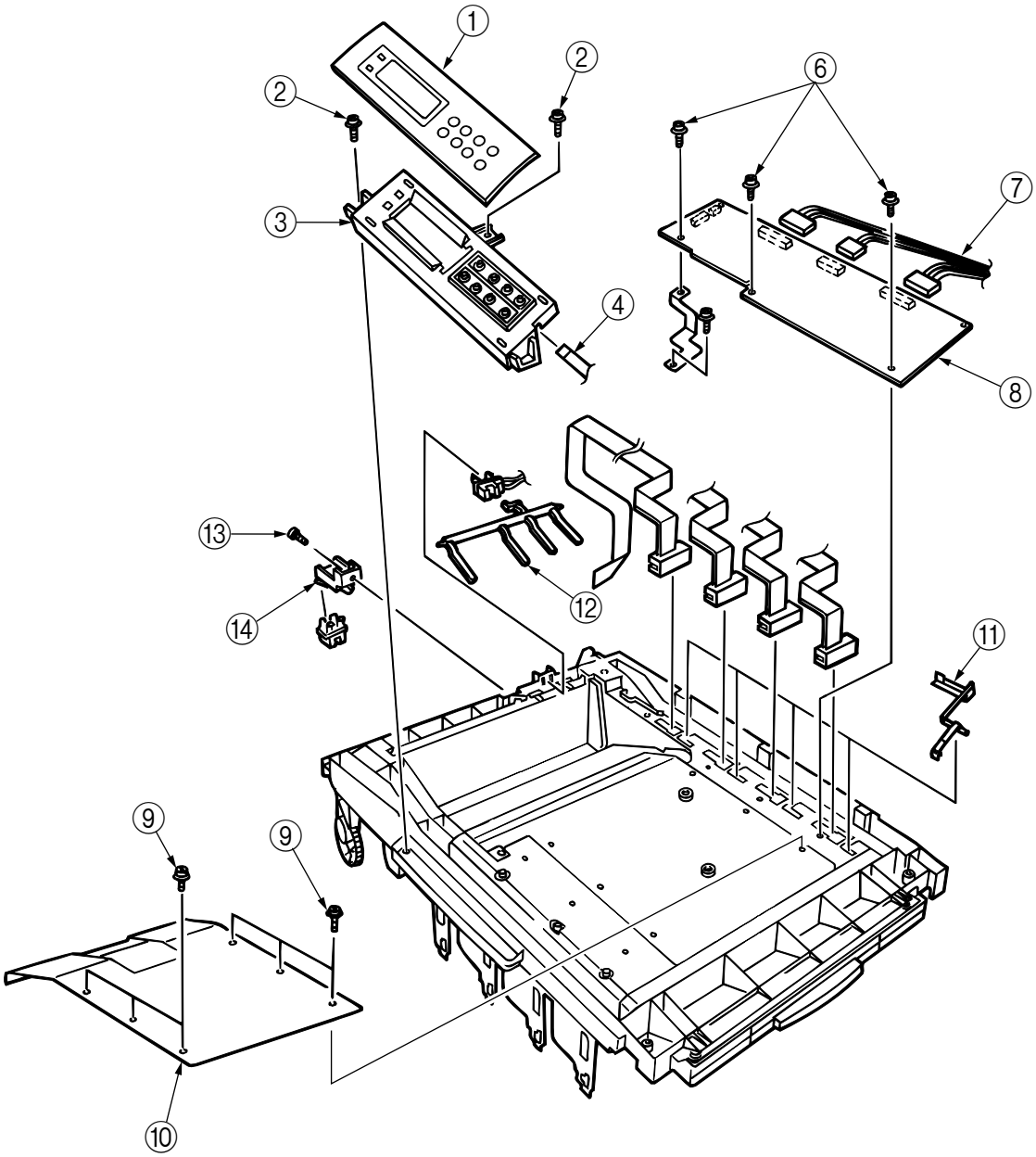
2.3.3 Top cover unit

(1) Remove the top cover (see section 2.3.1).
(2) Remove the rear cover (see section 2.3.12).
(3) Remove the front cover (see section 2.3.11).
(4) Remove the electrical chassis (see section 2.3.21).
(5) Unscrew the screws ① and ② to remove the limiters (F) ③ and (R) ④.
(6) Remove the inner shaft ⑤, then the top cover unit ⑧ (The inner springs ⑥ and ⑦ become detached).



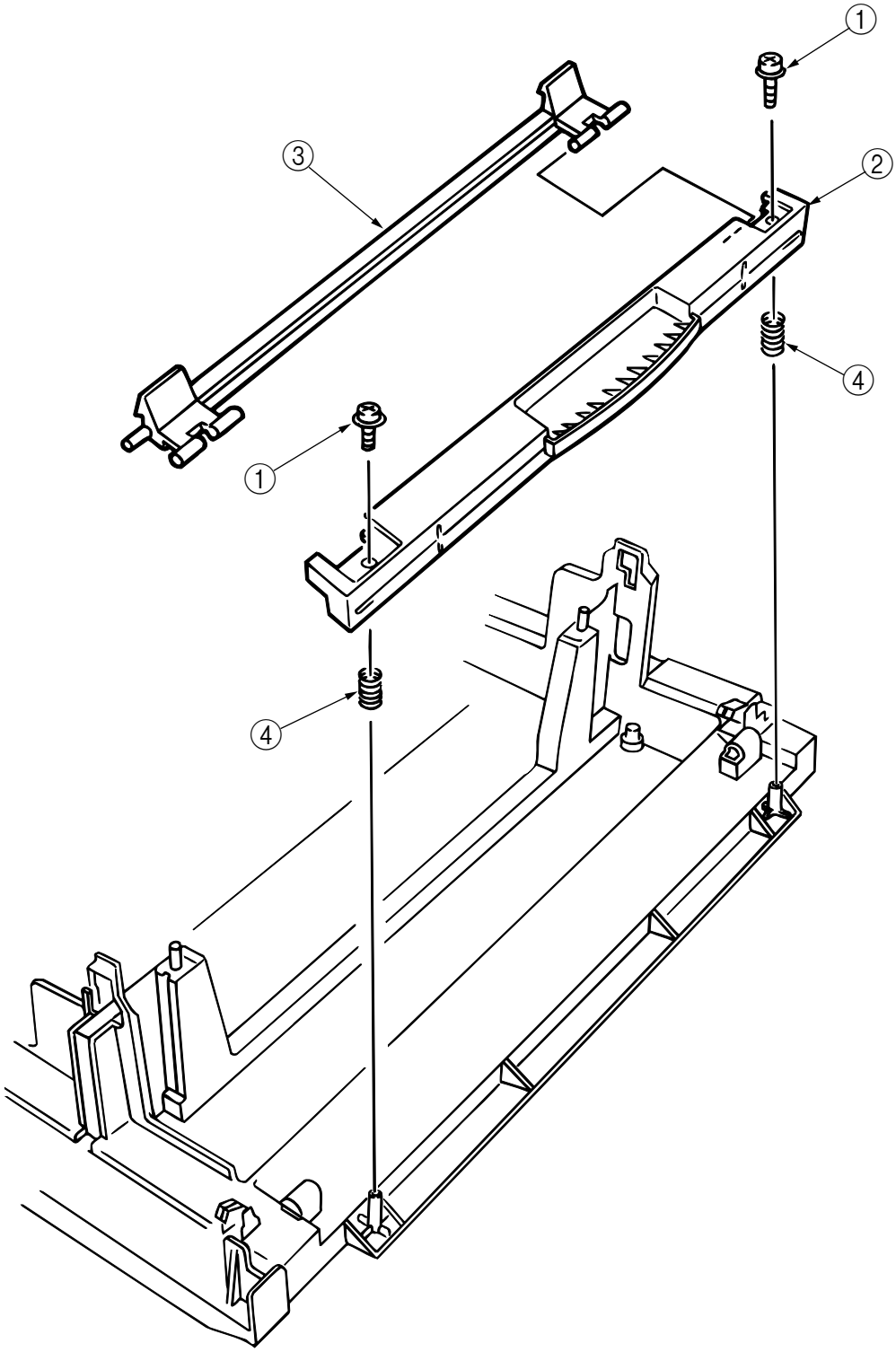
2.3.4 Control panel Assy/ Control panel bezel/ LED control PWB/ Toner sensor/ Stack full sensor/ Control panel tape harness/ Eject roller

(1) Detach the control panel bezel ①.
(2) Remove the screws ② to demount the control panel ③.
(3) Detach the control panel tape harness ④.
(4) Remove the screws ⑥, unhook the connector ⑦ and demount the LED control PWB ⑧.
(5) Unscrew the screws ⑨ to remove the plate ⑩.
(6) Disengage the claw to demount the toner sensor ⑪.
(7) Demount the stacker full sensor ⑫.
(8) Unscrew the eject sensor bracket ⑬, ⑭.



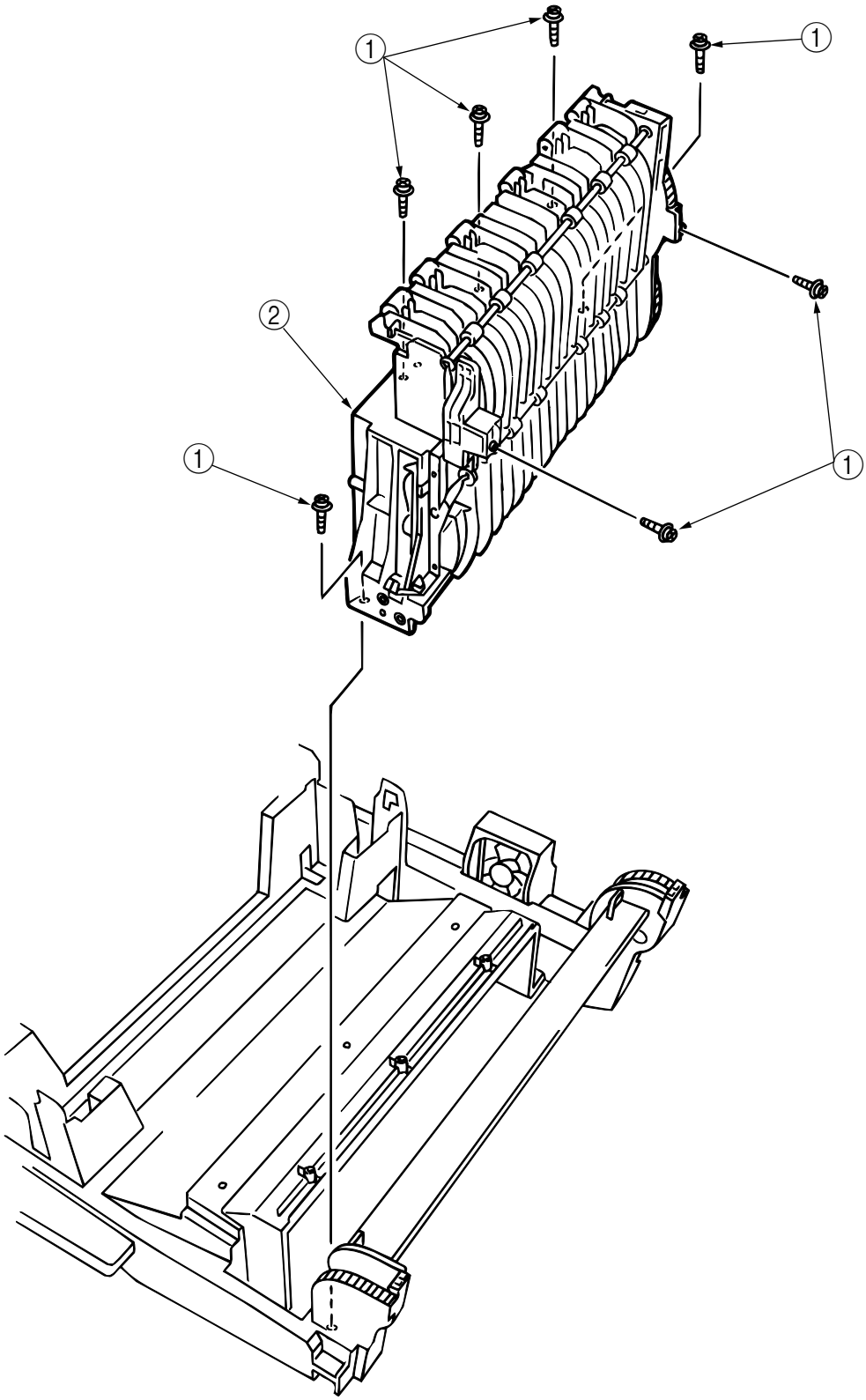
2.3.5 Top cover handle/ Tope cover latch/ Top cover latch spring

(1) Remove the two screws ① to detach the top cover handle ② and disengage the top cover latch ③ (The two top cover latch springs ④ become detached).



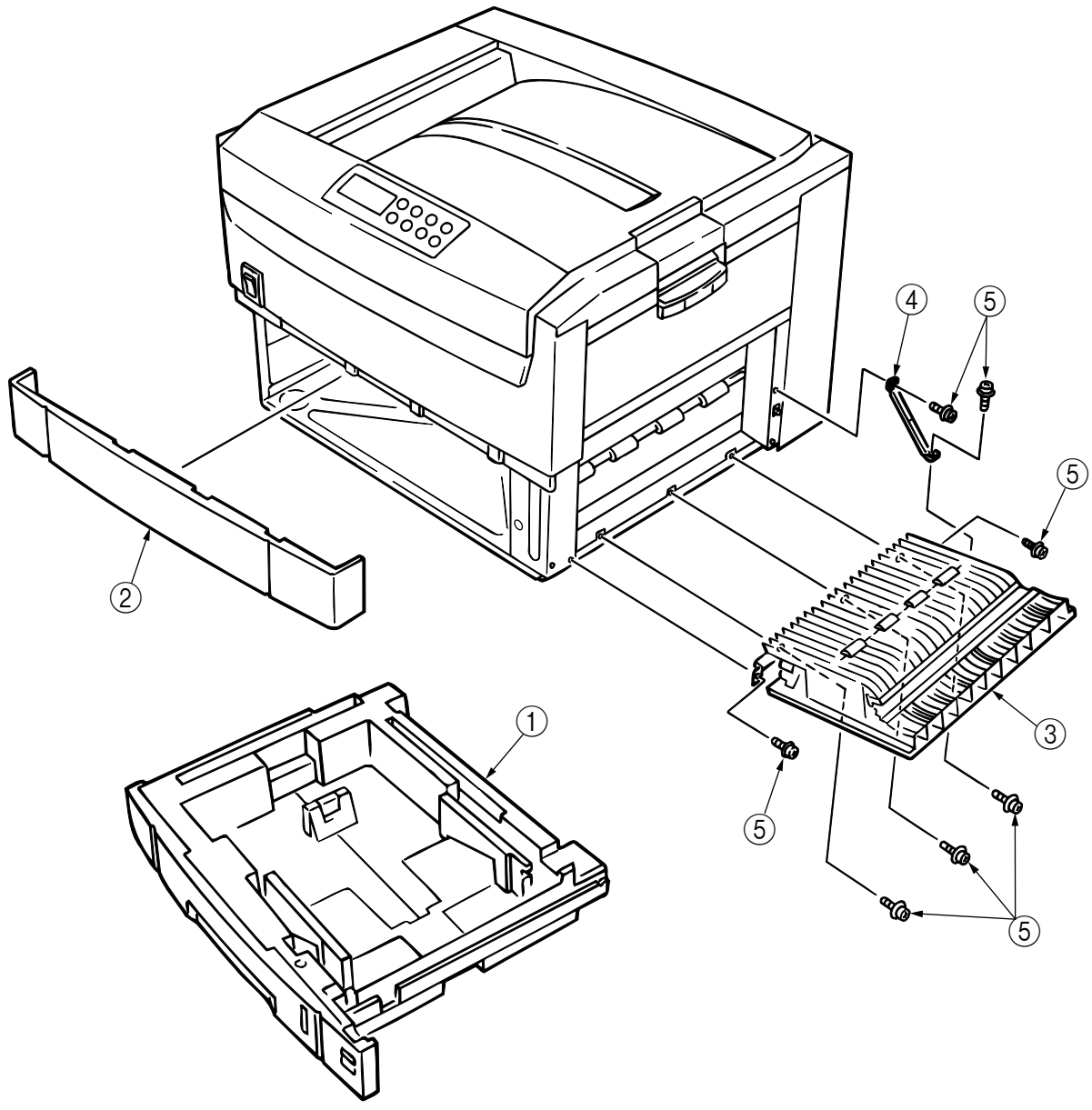
2.3.6 Eject guide Assy

(1) Remove the seven screws ① to detach the eject guide Assy ②.



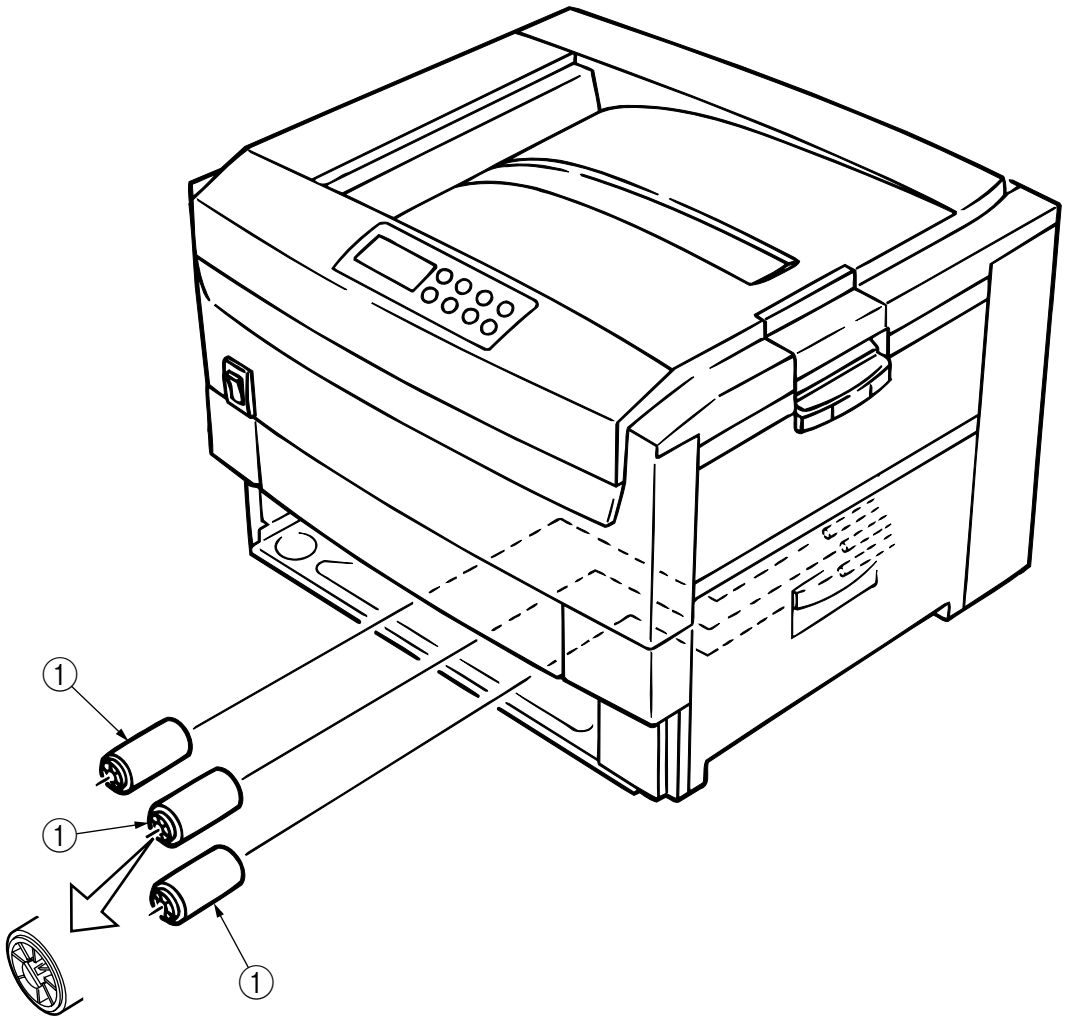
2.3.7 Cassette Assy/ Blind cover/ Side cover R Assy

(1) Detach the cassette Assy ①.
(2) Disengage the blind cover ② at the two places to detach it.
(3) Unscrew the two screws to remove the stopper ④.
(4) Disengage the claw on the left support of the side cover R to detach the side cover R.



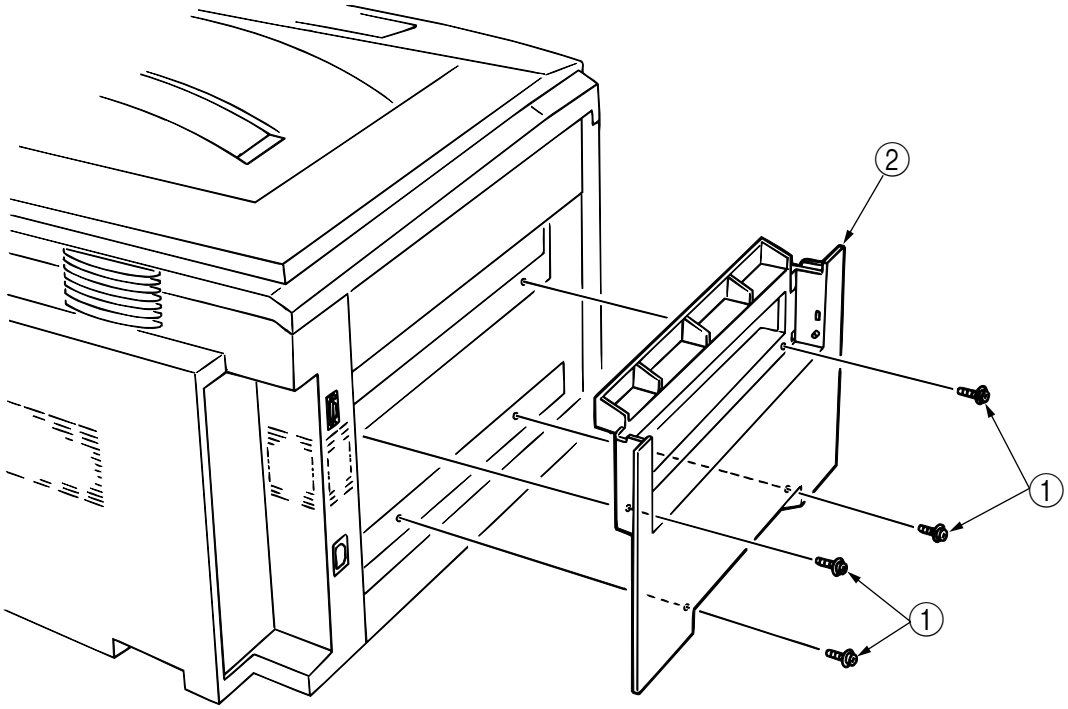
2.3.8 Feed rollers

(1) Remove the cassette.
(2) Unlatch and demount the feed rollers ①.



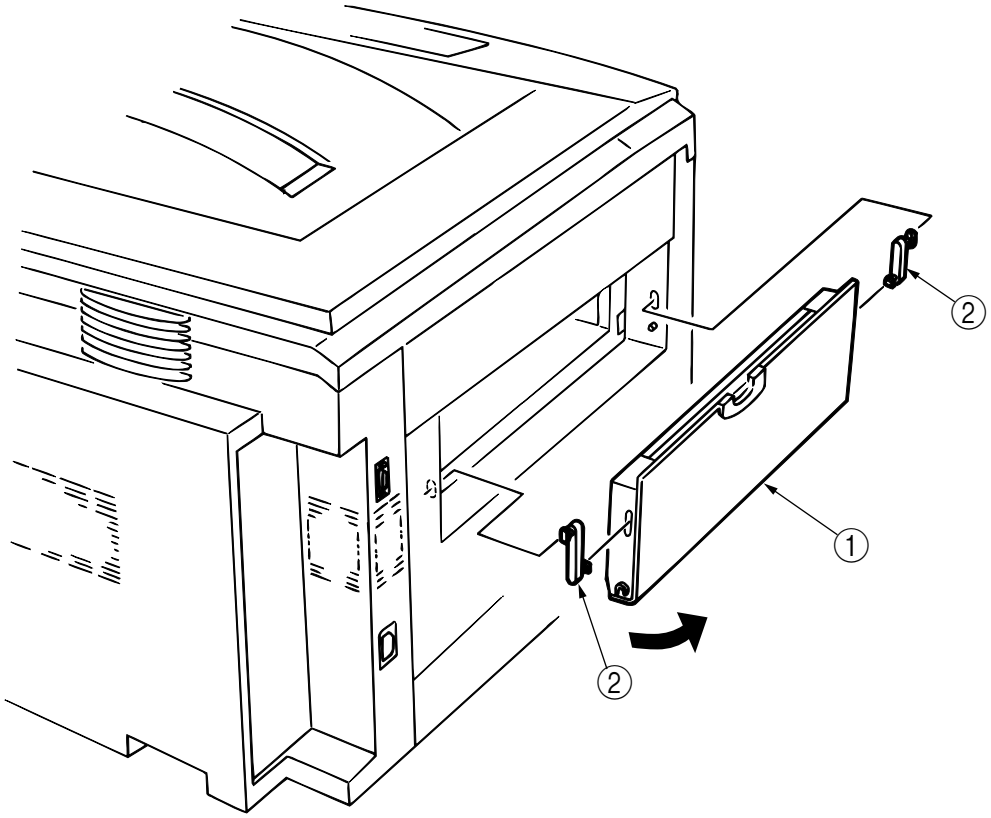
2.3.9 Left side cover

(1) Remove the four screws ① to detach the left side cover ②.



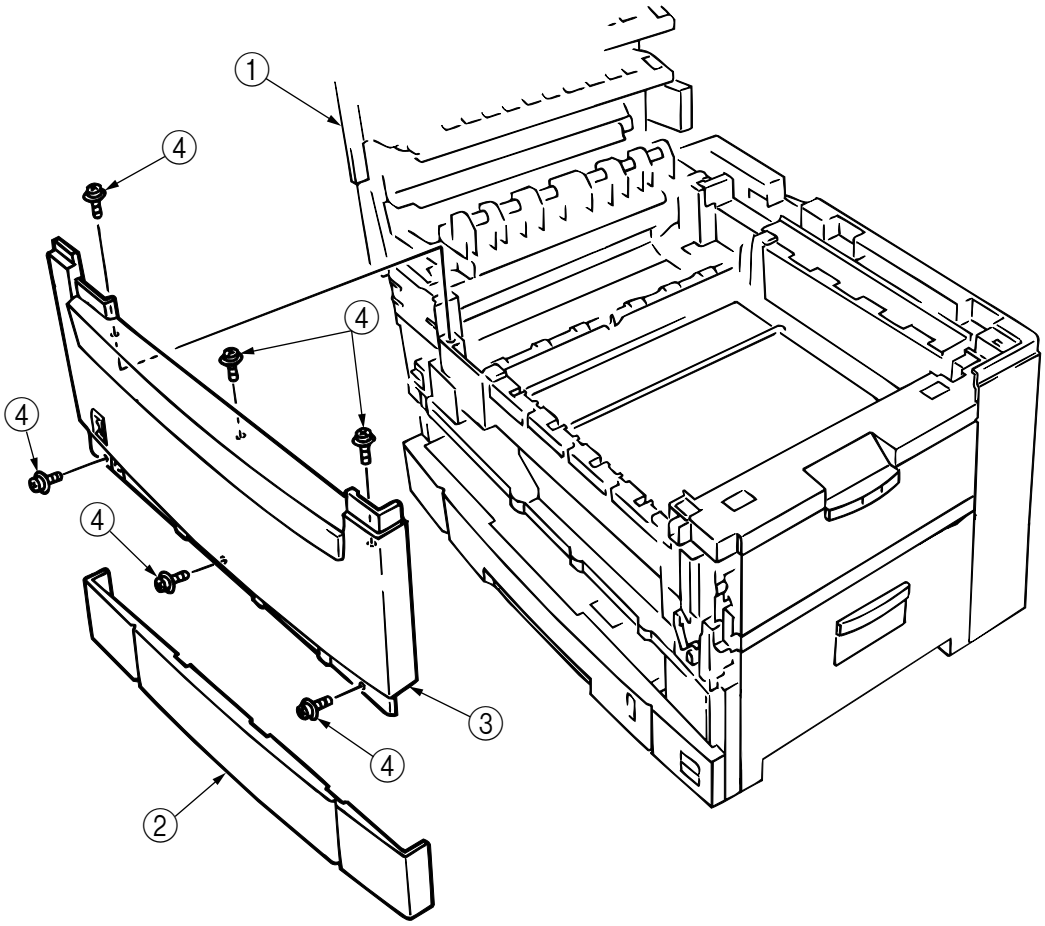
2.3.10 Face-up tray

(1) Open the face-up tray in the arrow direction and move the links ② out of engagement (at two places each of the links) to detach the face-up tray ①.



2.3.11 Front cover

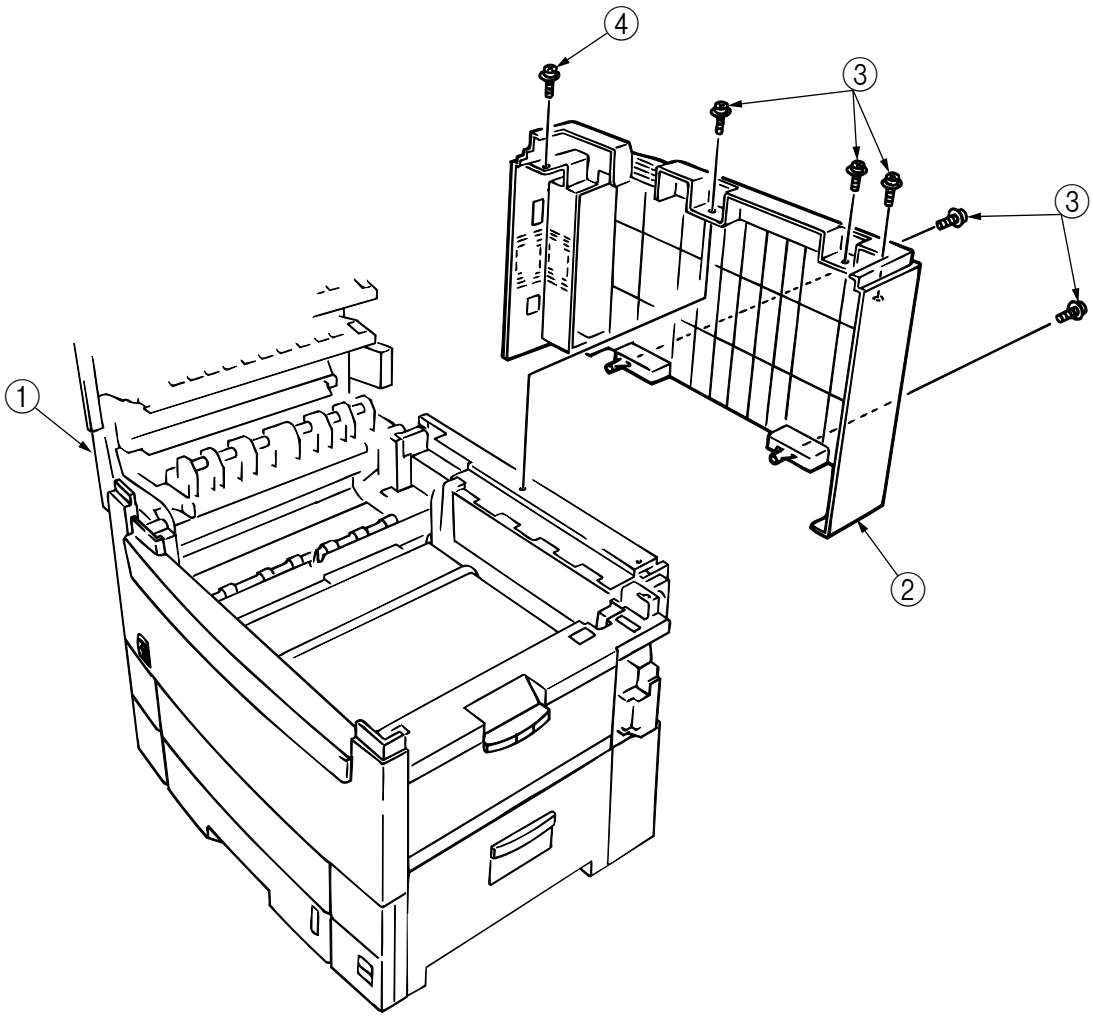
(1) Open the top cover ①.
(2) Disengage the claws and remove the blind cover ②.
(3) Unscrew the six screws ④ to detach the front cover ③.



2.3.12 Rear cover

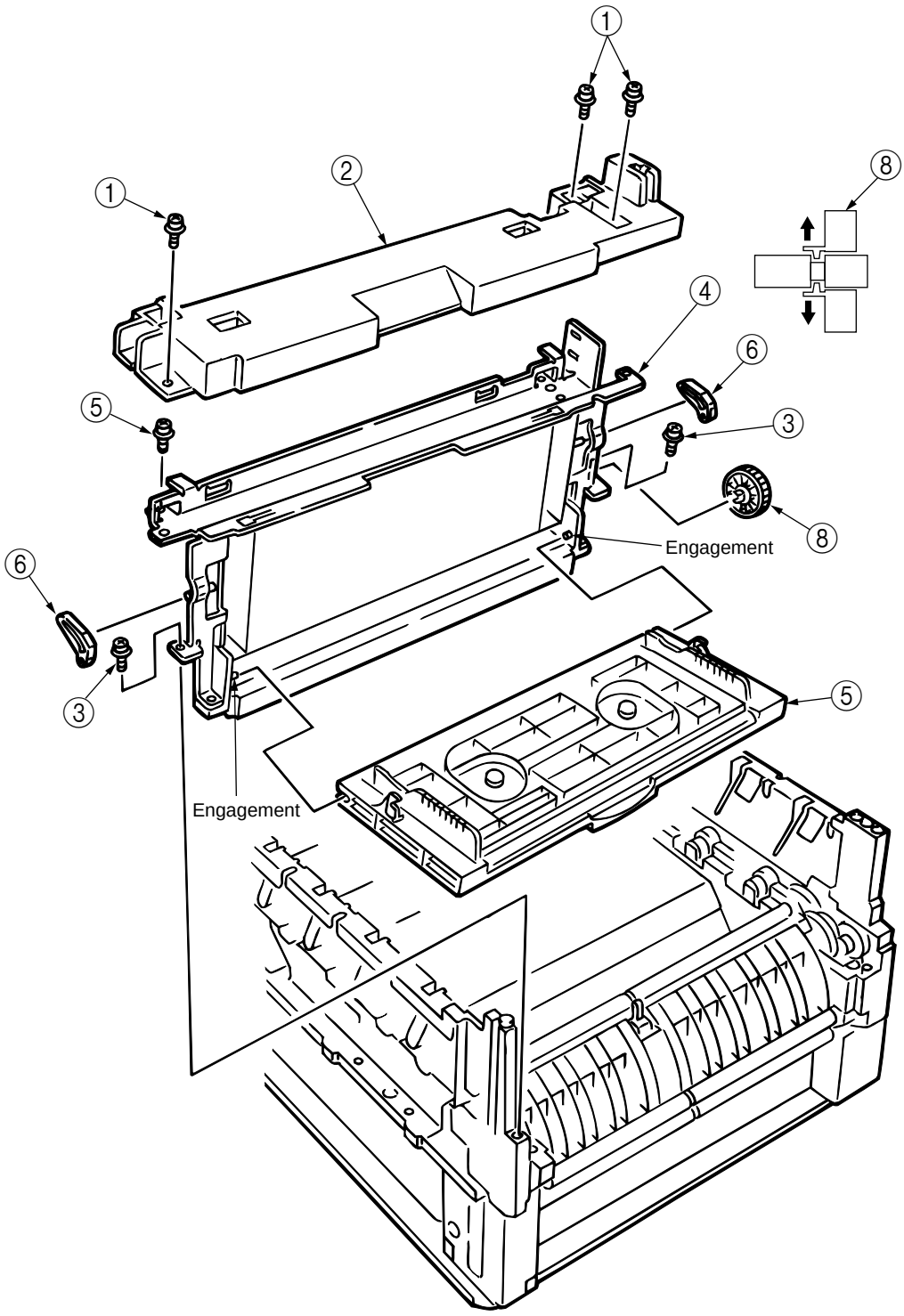
(1) Open the top cover ①,

(2) Remove the five screws ③ and ④ to detach the rear cover ②.



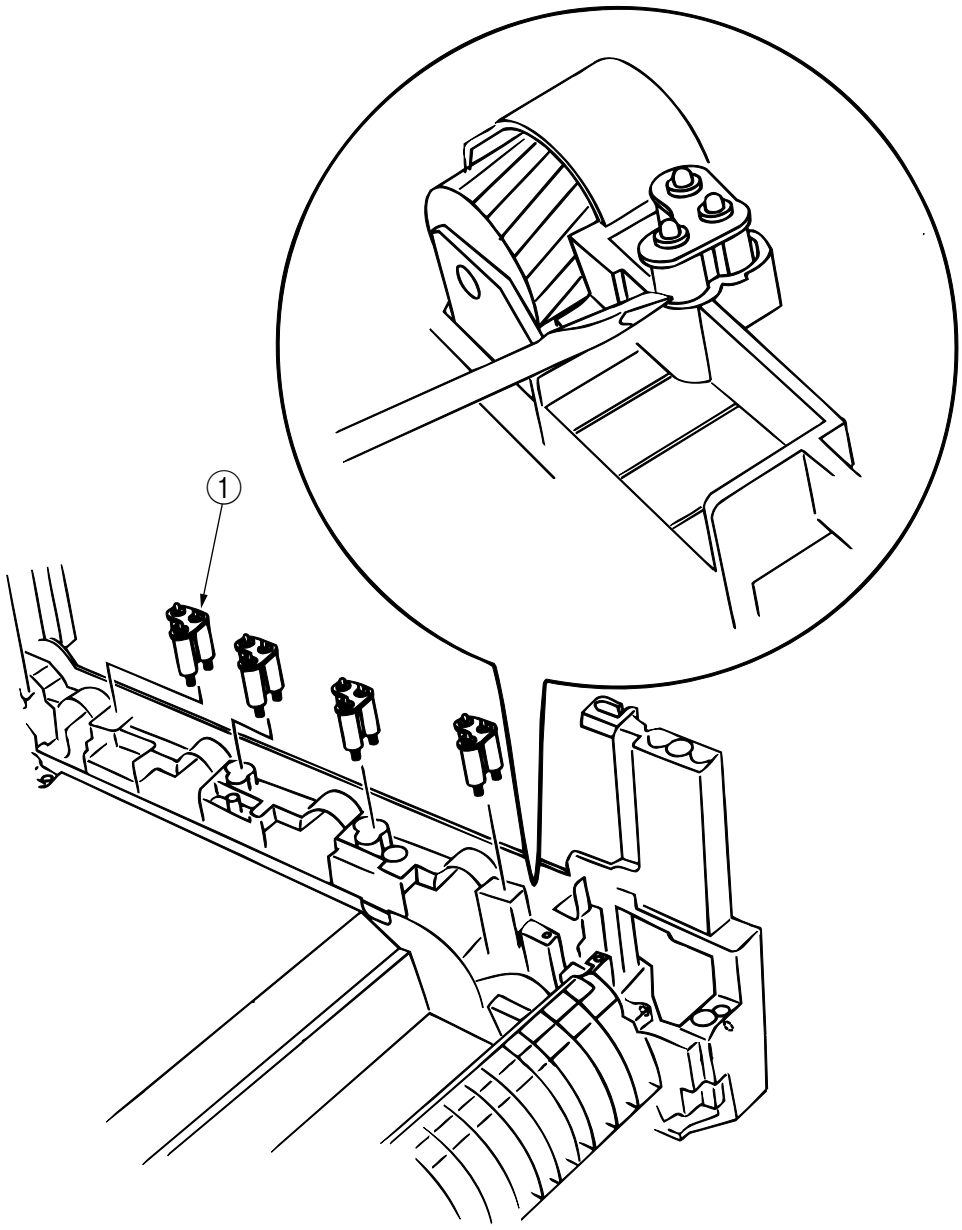
2.3.13 Multipurpose tray Assy/ Multipurpose tray cover Assy/ Links/ Multipurpose tray top cover/ Multipurpose tray drive gear

(1) Remove the rear cover (see section 2.3.12).
(2) Remove the front cover (see section 2.3.11).
(3) Unscrew the three screws ① to detach the multipurpose tray top cover ②.
(4) Unscrew the two screws ③ and remove the connector to detach the multipurpose tray ④.
(5) Disengage ④ and ⑤ to detach the multipurpose tray cover Assy ⑤ (the links ⑦ become detached).
(6) Unhook and detach the multipurpose tray drive gear ⑧.



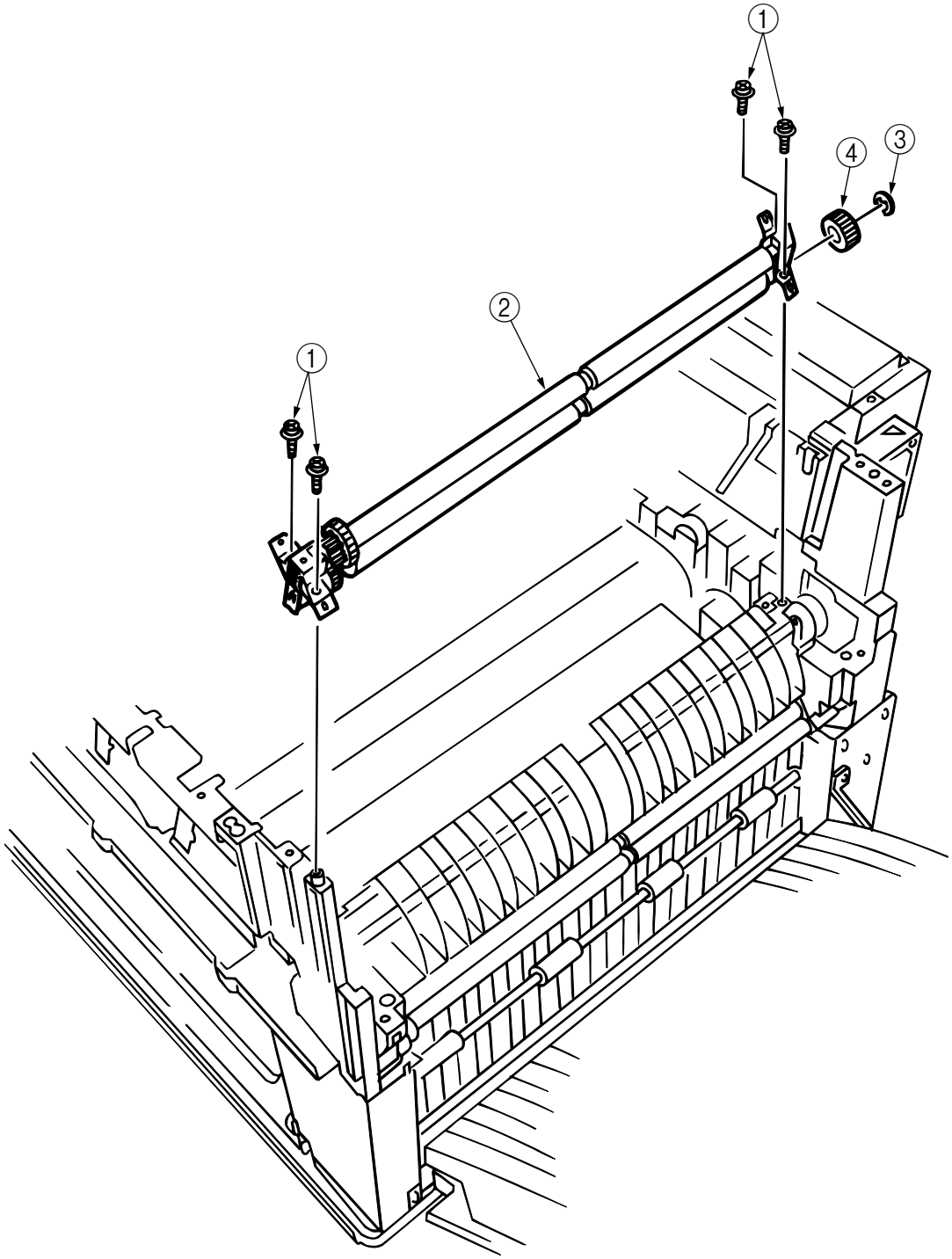
2.3.14 Drum contact Assys

(1) Insert a flatblade screwdriver between the printer case and the drum contact Assy ① to demount the drum contact Assy.



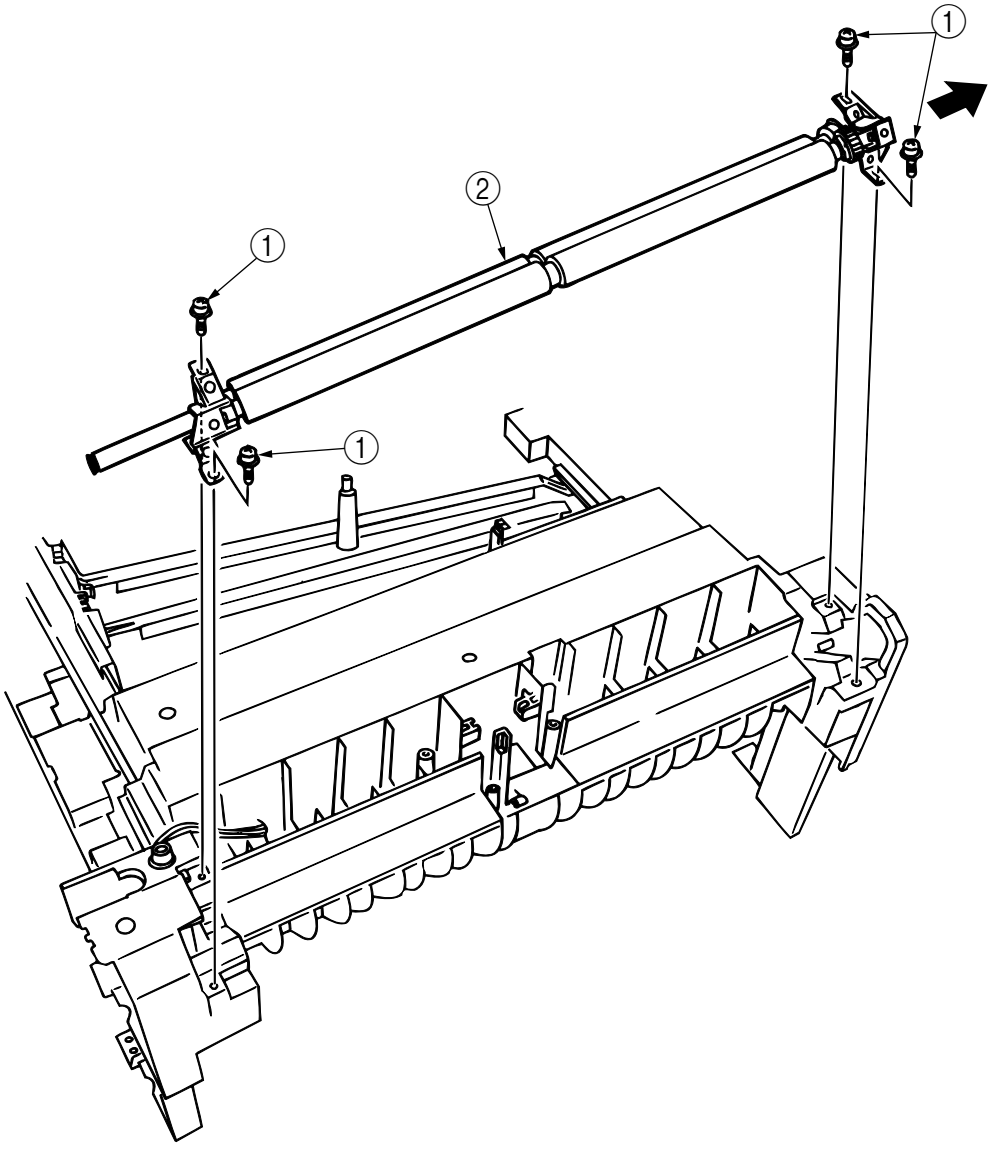
2.3.15 Registration roller Assy (A)/ Registration drive gear (A)

(1) Remove the front cover (see section 2.3.11).
(2) Remove the rear cover (see section 2.3.12).
(3) Remove the multipurpose tray (see section 2.3.13).
(4) Unscrew the four screws ① to demount the registration roller Assy (A) ②.
(5) Remove the E ring ③ to detach the registration gear (A) ④.



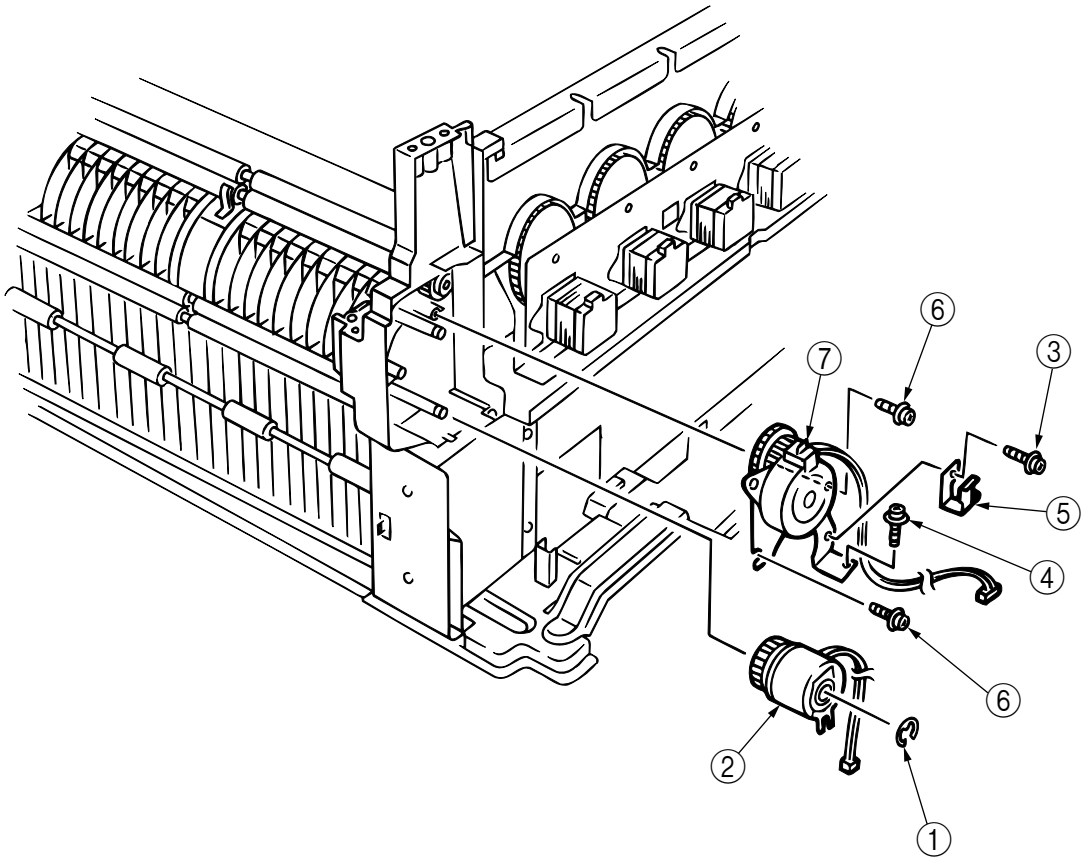
2.3.16 Registration roller Assy (B)

(1) Remove the cassette Assy.
(2) Remove the front cover (see section 2.3.11).
(3) Remove the rear cover (see section 2.3.12).
(4) Remove the electrical chassis (see section 2.3.21).
(5) Remove the registration clutch (see section 2.3.17).
(6) Remove the printer chassis (see section 2.3.23).
(7) Unscrew the four screws and pull out the registration Assy (B) ② in the arrow direction.



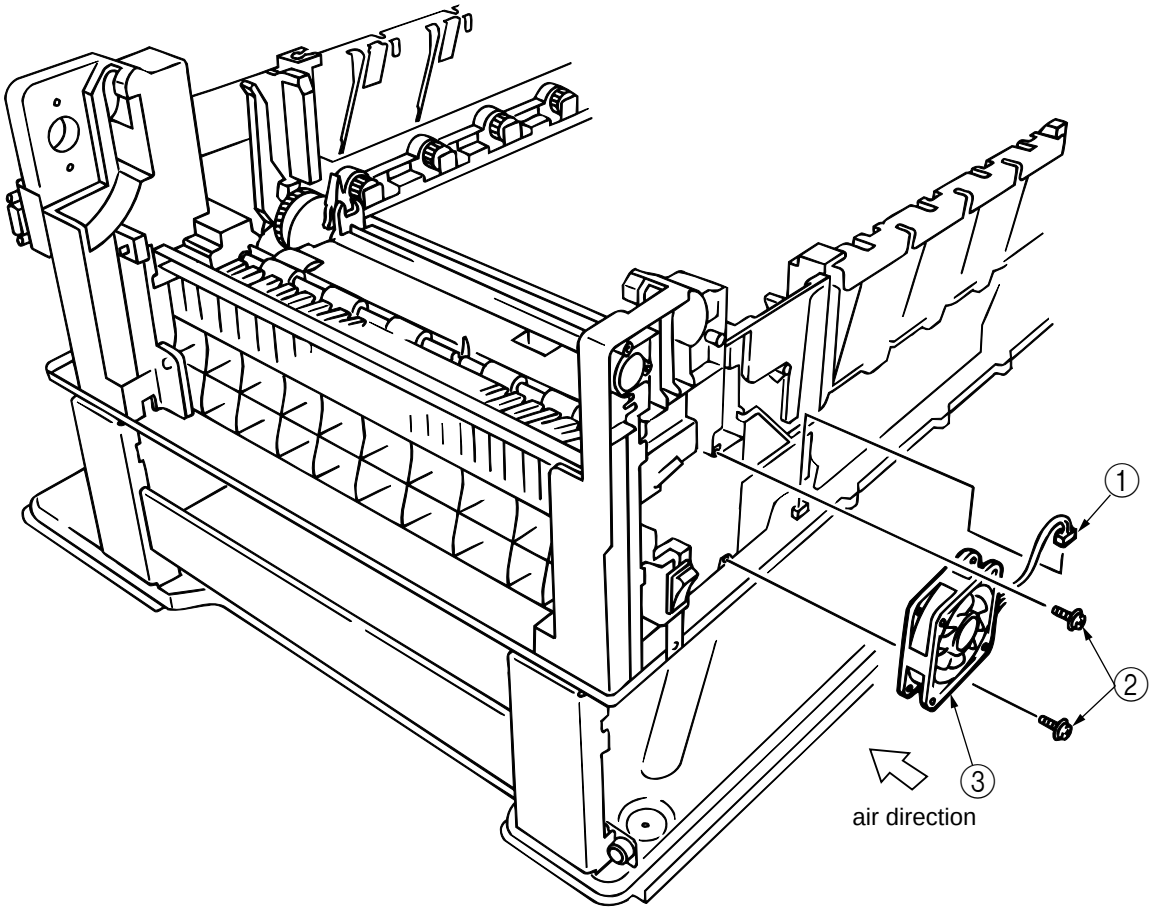
2.3.17 Registration clutch, Registration motor Assy

(1) Remove the left side cover (see section 2.3.9).
(2) Remove the electrical chassis (see section 2.3.21).
(3) Remove the connector and the E ring ①, then screws ③ and ④, and then the earth plate ⑤.
(4) Remove the connector and unscrew the two screws ⑥ to demount the registration motor Assy ⑦.



2.3.18 Cooling fan

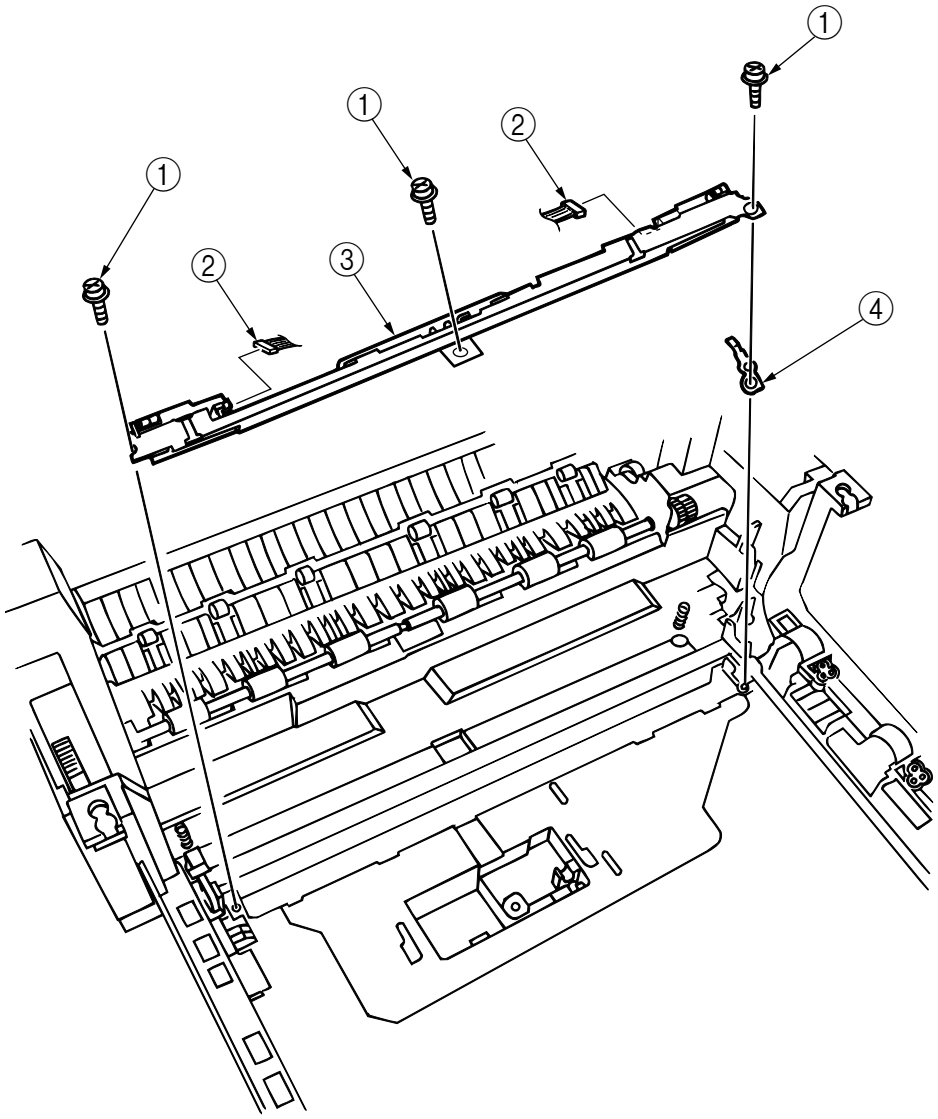
(1) Unhook the connector ①, and remove the screws ② and the cooling fan ③.



2.3.19 Color registration sensor Assy

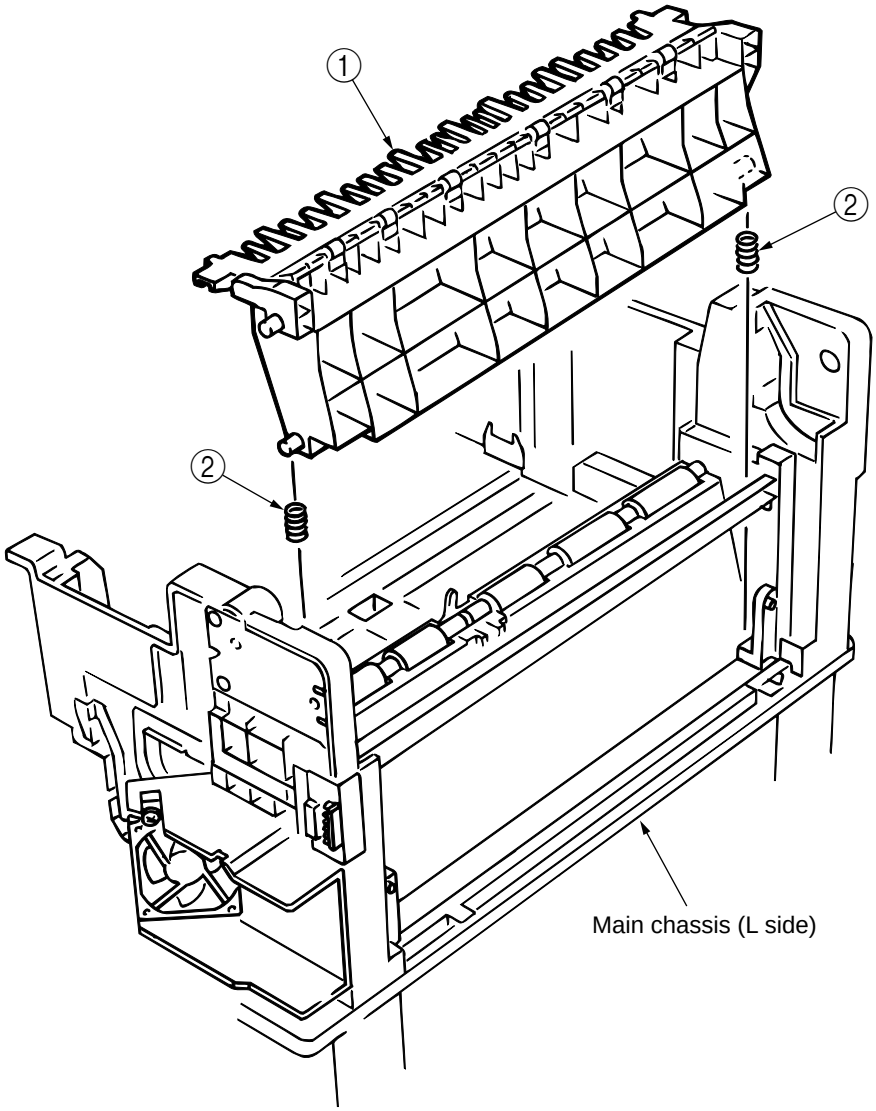
(1) Remove the two screws ① and the three connectors to demount the color registration sensor Assy ②.

(2) Remove the earth plate B ③.



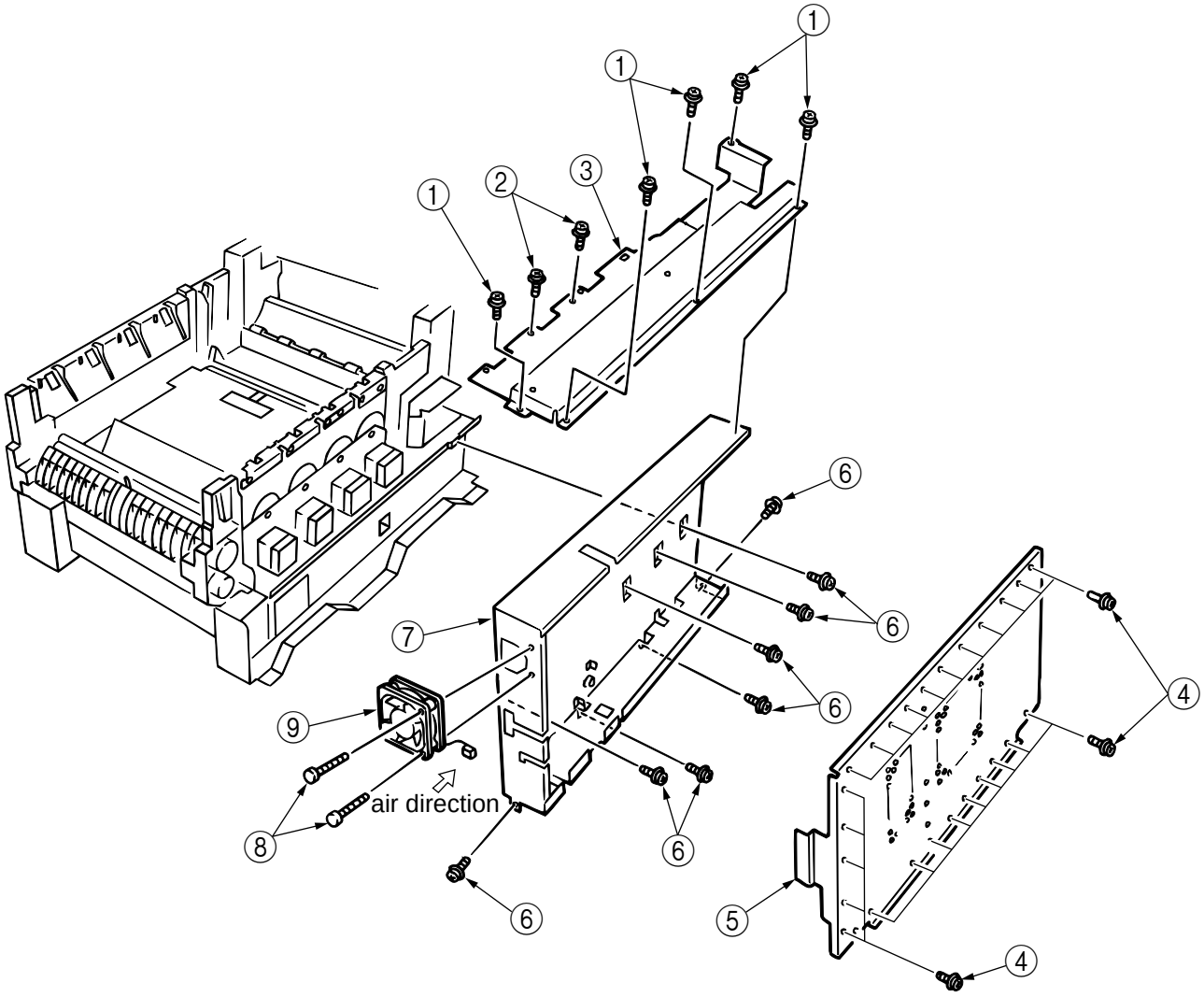
2.3.20 Duplex guide Assy

(1) Unlatch and demount the duplex guide Assy ①.
(2) Remove the springs ②.



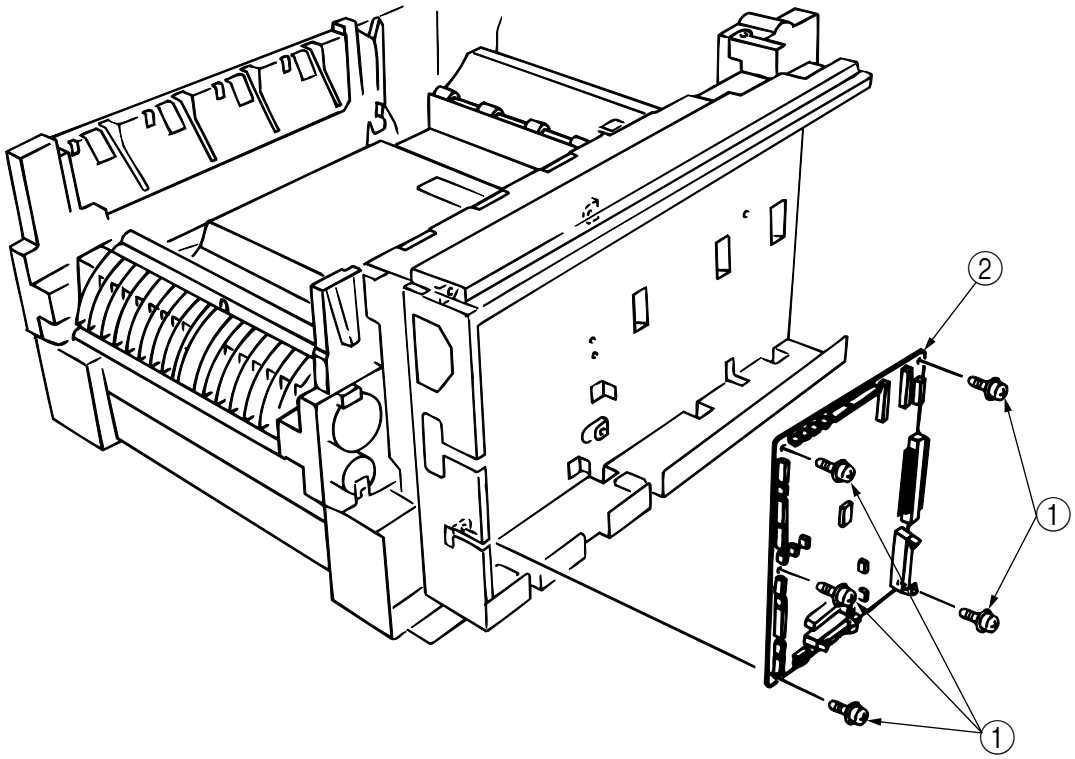
2.3.21 Electrical chassis/ Electrical chassis cooling fan

(1) Unscrew the five screws ① and two screws ② to remove the plate A ③.
(2) Unscrew the thirty-one screws ④ to remove the shield plate B ⑤.
(3) Remove the printer engine controller PWB (see section 2.3.22).
(4) Unscrew the eleven screws ⑥ to detach the electrical chassis ⑦.
(5) Unscrew the two screws ⑧ to demount the electrical chassis cooling fan ⑨.



2.3.22 Printer engine controller PWB

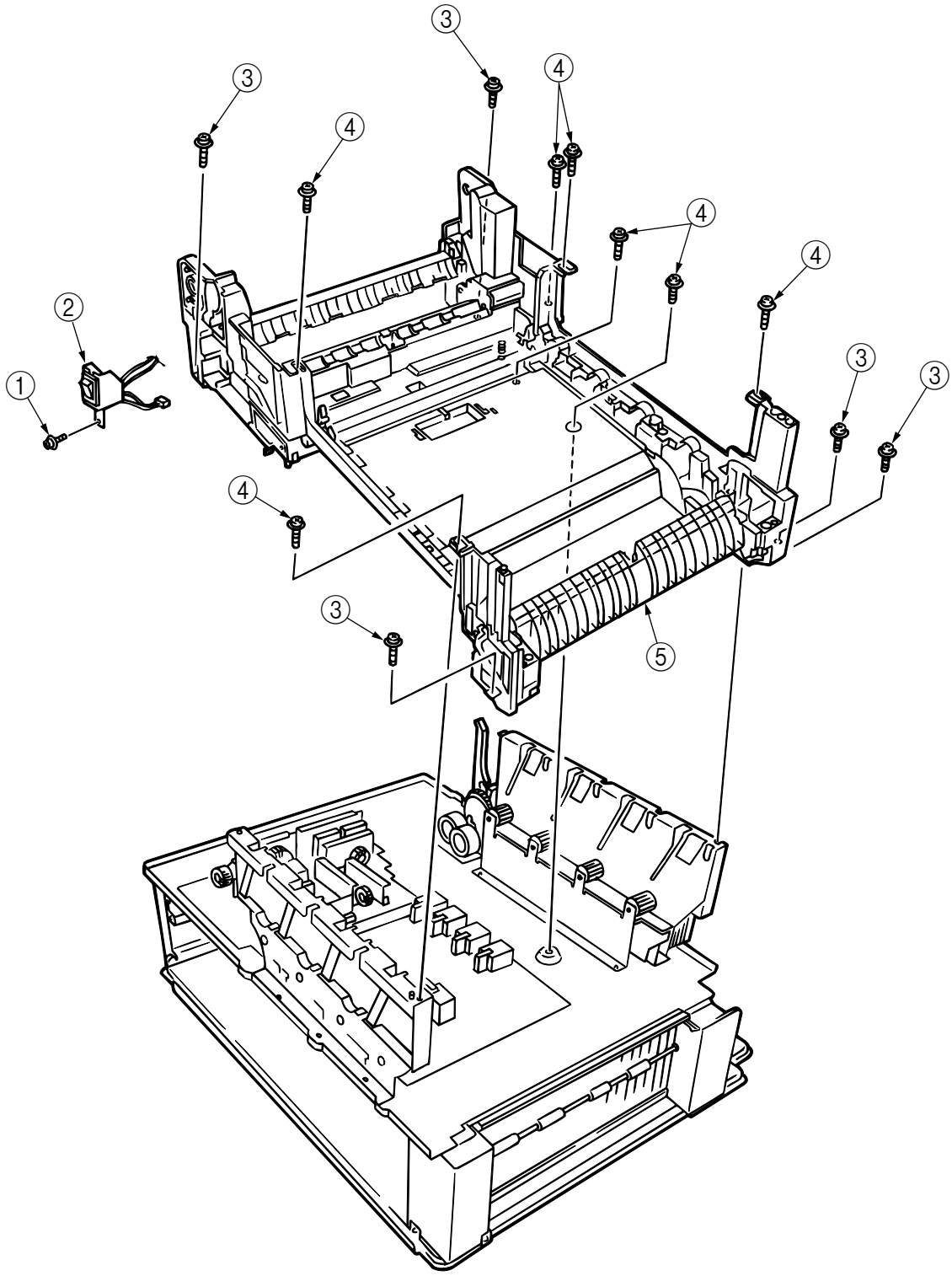
(1) Remove the rear cover (see section 2.3.12).
(2) Remove the electrical chassis and the electrical cooling fan (see section 2.3.21).
(3) Remove the five screws ① and all the connectors to demount the printer engine controller PWB ②.



2.3.23 Printer unit chassis

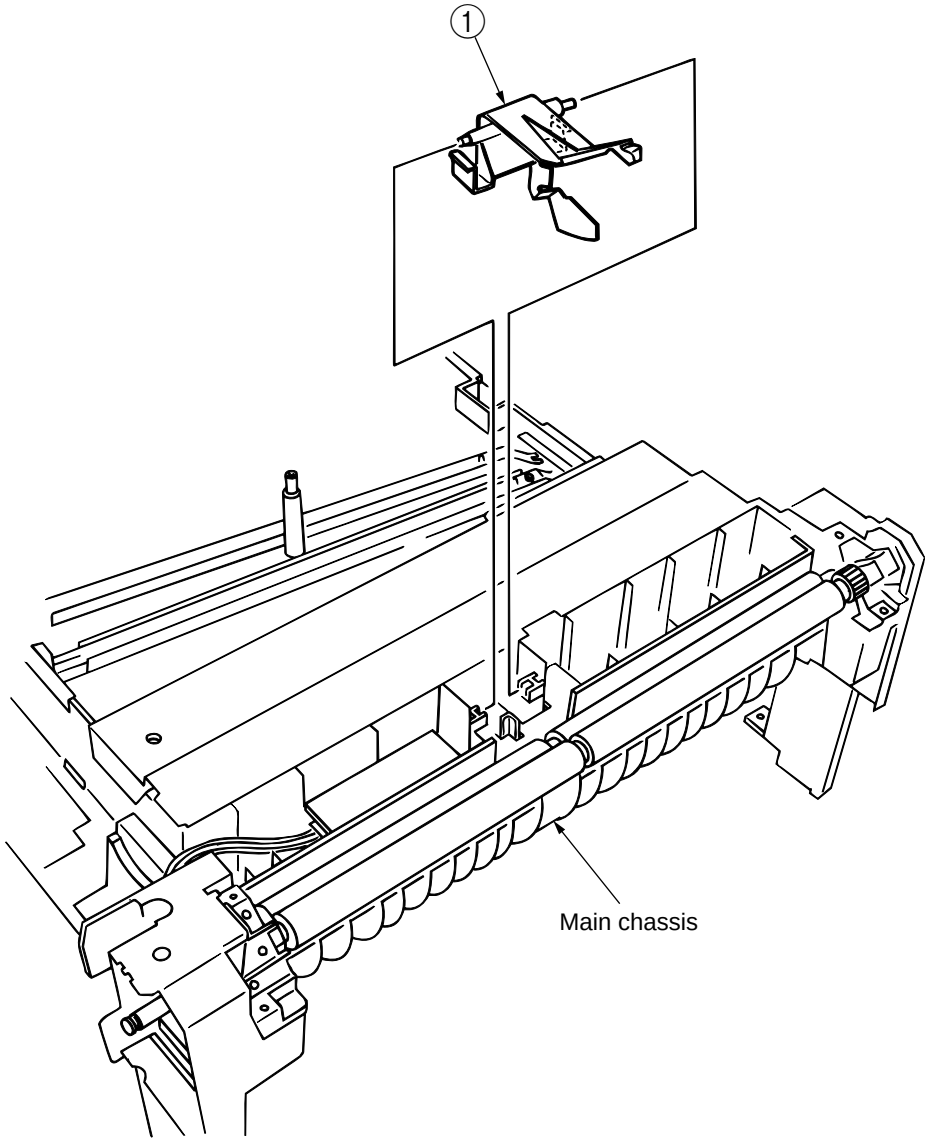
(1) Unscrew the screw ① and remove the AC switch Assy ②.

(2) Remove the four black screws ③ and six screws ④ to detach the printer unit chassis ⑤.



2.3.24 Entrance cassette sensor actuator

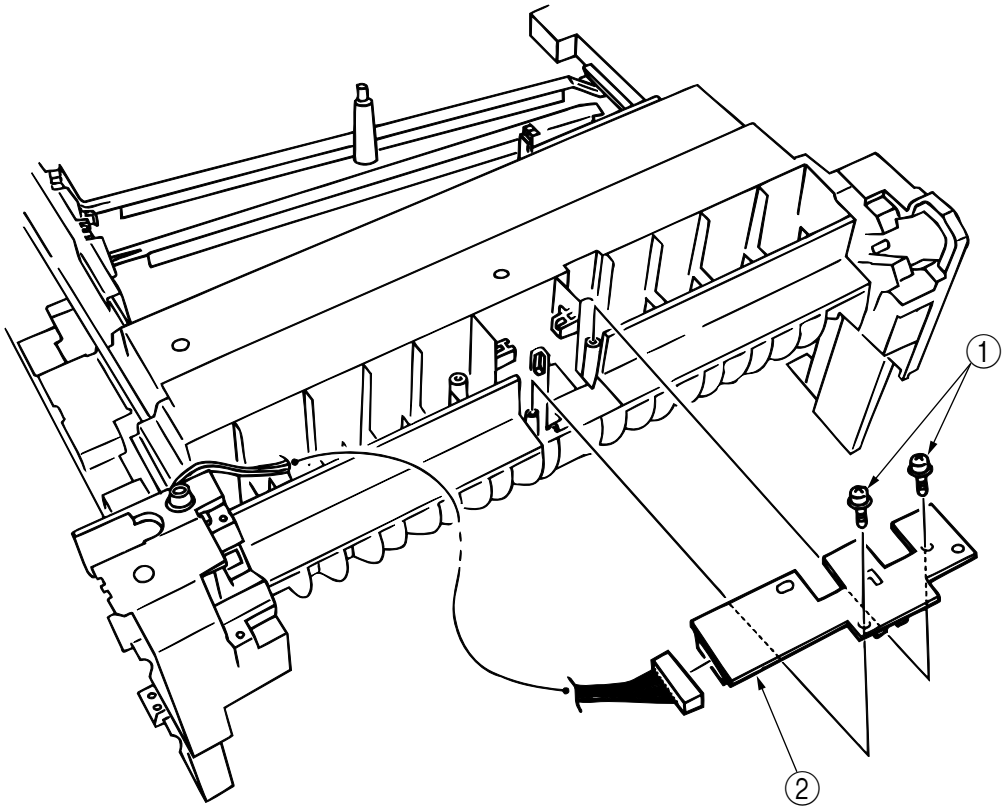
(1) Remove the printer unit chassis (see section 2.3.12).
(2) Turn over the main chassis.
(3) Remove the two clamps with tweezers to demount the entrance cassette sensor actuator ①.



2.3.25 Entrance sensor PWB

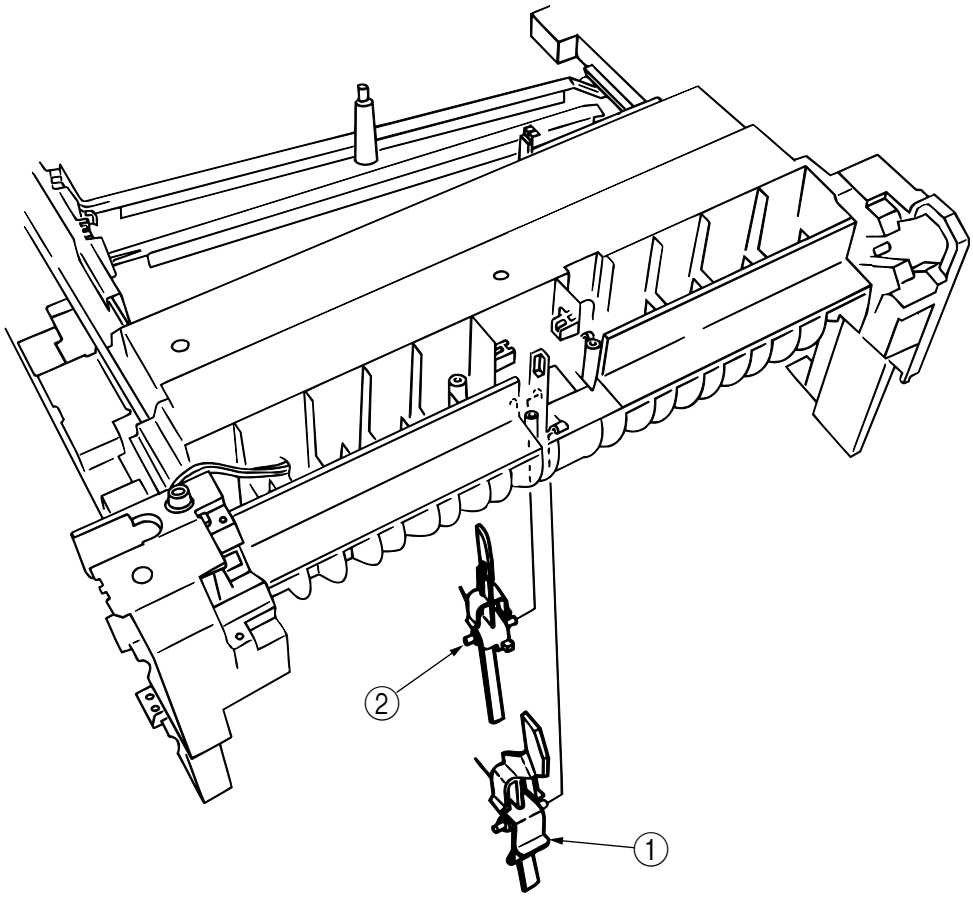
(1) Remove the registration roller Assy (B) (see section 2.3.16).

(2) Remove the two screws ① to demount the entrance sensor PWB ②.



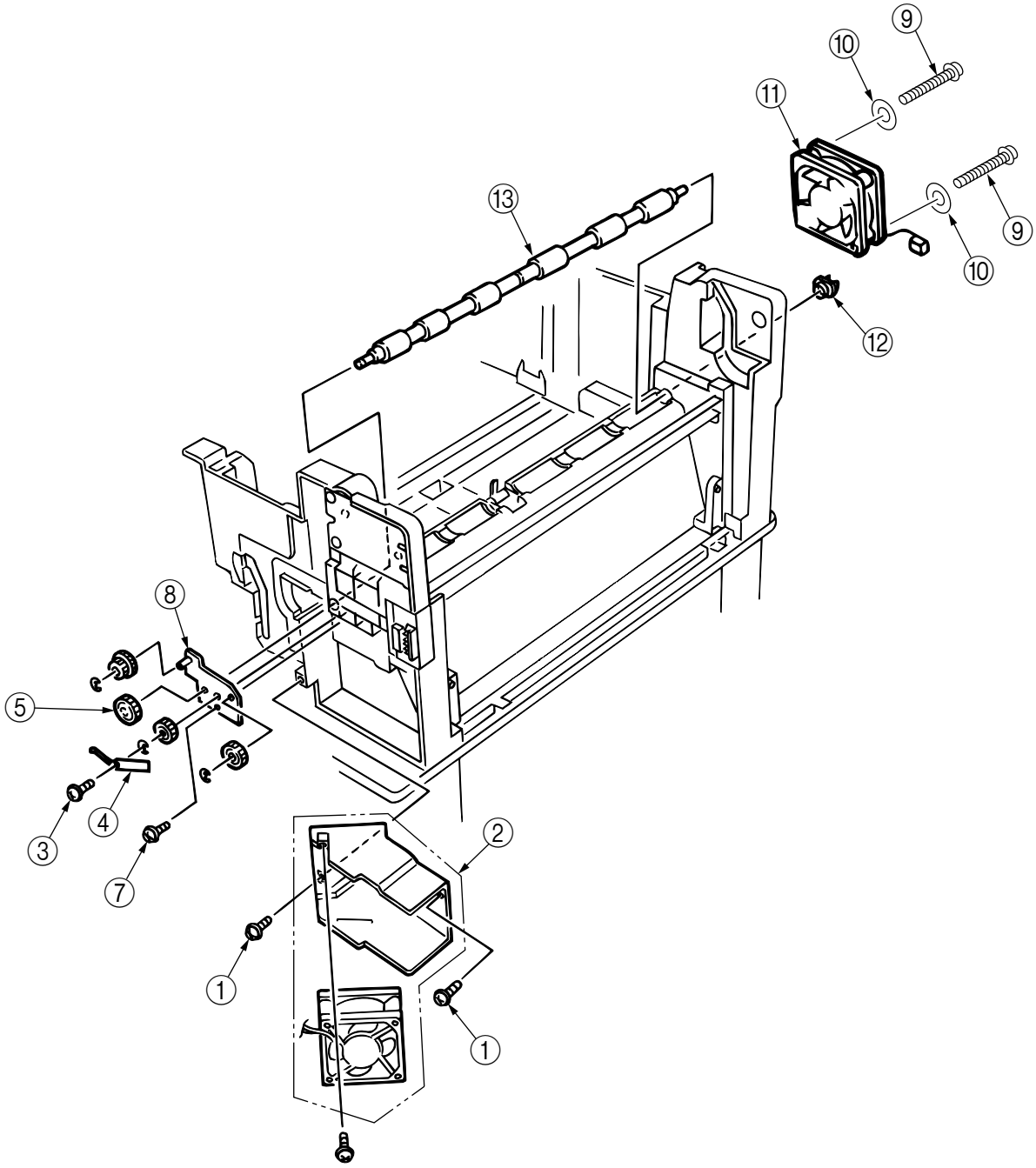
2.3.26 Entrance MT sensor actuator and Entrance belt sensor actuator

(1) Remove the entrance sensor PWB (R71) (see section 2.3.25).
(2) Unlatch and detach the entrance MT sensor actuator ①.
(3) Unlatch and detach the entrance belt actuator ②.



2.3.27 Main motor fan/ Fuser eject roller

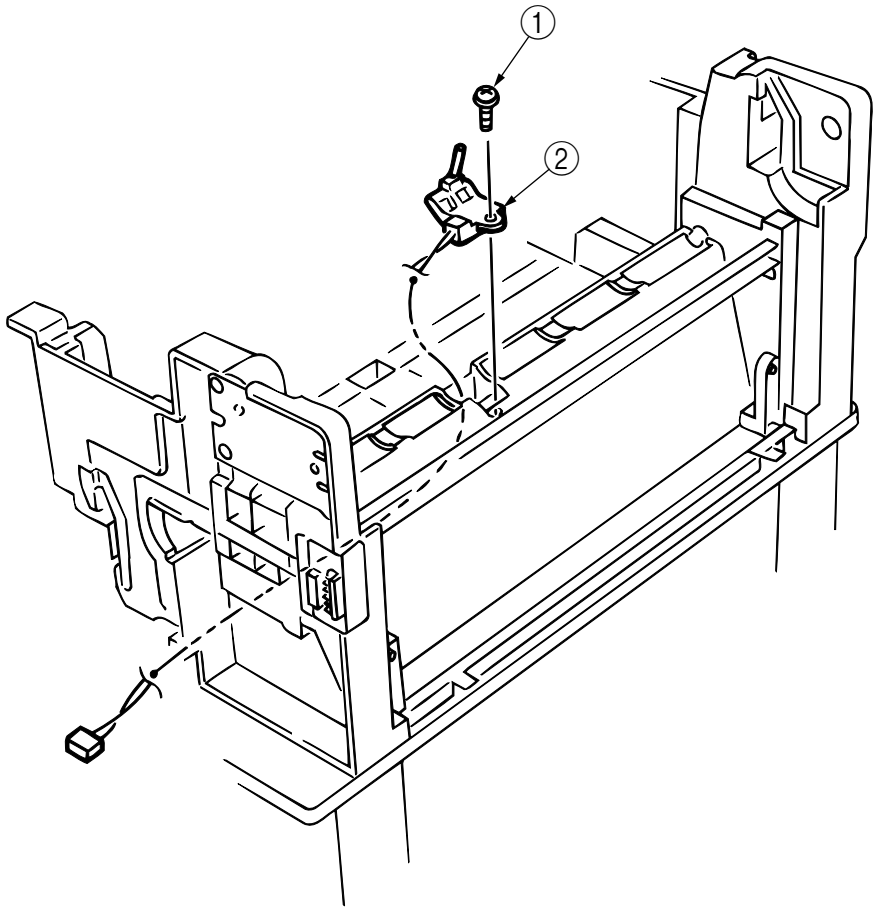
(1) Unscrew the two screws ① to remove the fan Assy ②.
(2) Unscrew the fuser eject roller contact ④.
(3) Remove the fuser drive gear ⑤.
(4) Unscrew the fuser drive gear Assy ⑧.
(5) Remove the screws and washers ⑩ to demount the fan ⑪.
(6) Unlatch and detach the fuser eject roller bearing (L) ⑫ and fuser eject roller ⑬.



2.3.28 Eject sensor Assy

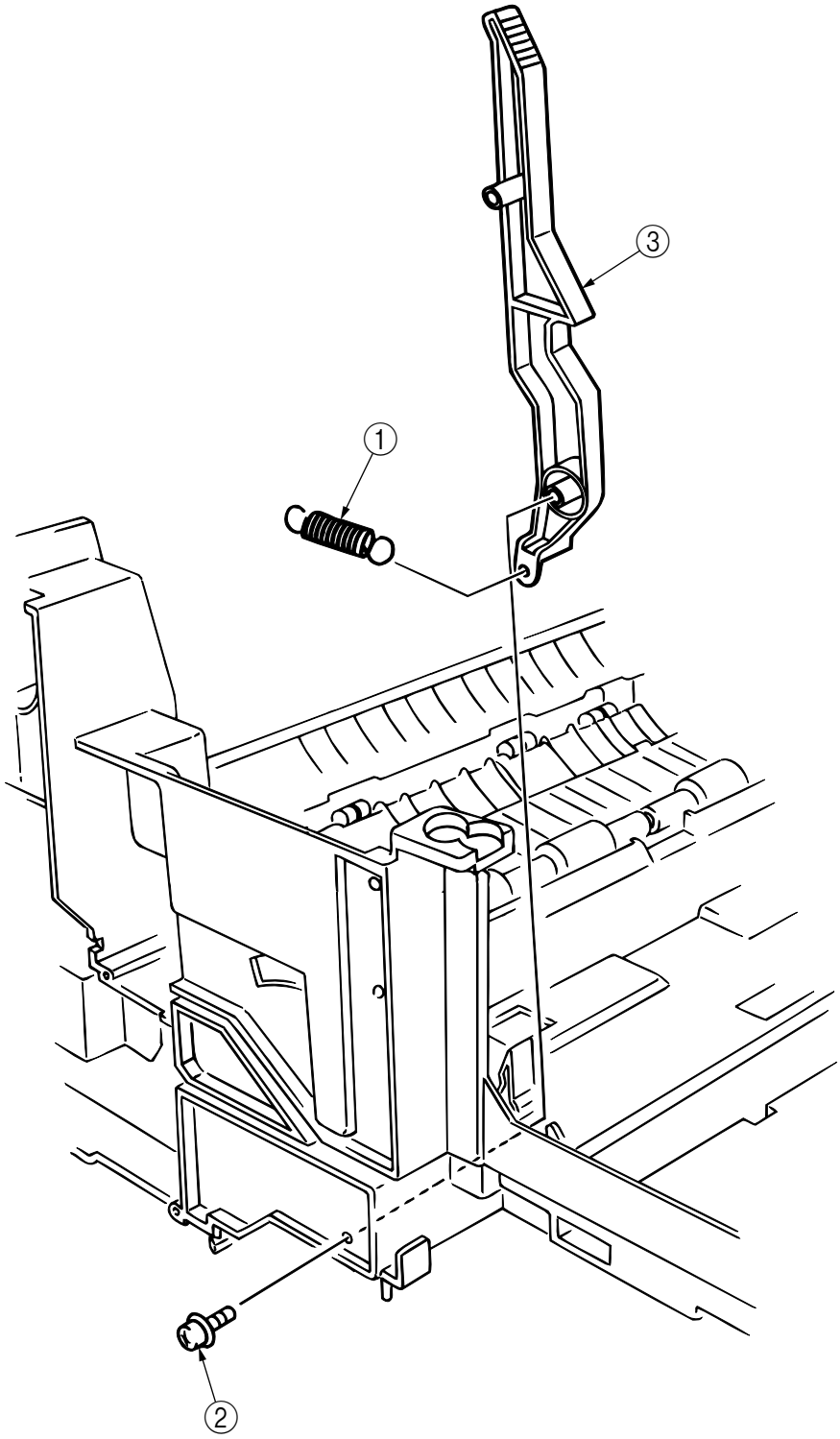
(1) Remove the fuser eject roller (see section 2.3.27).

(2) Remove the screw ① and connector ② to demount the (red/blue) eject sensor Assy ②.



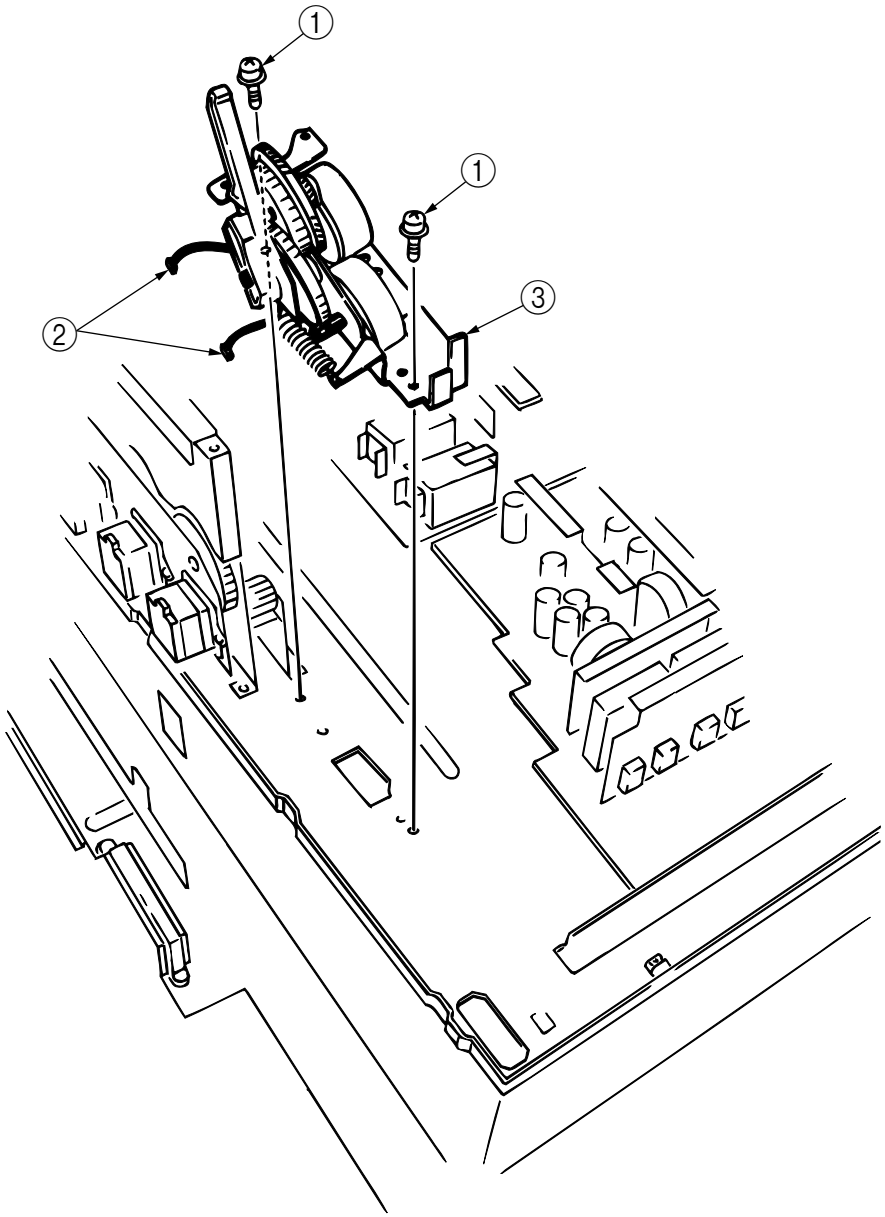
2.3.29 Fuser latching handle (L)

(1) Remove the latching handle spring ①.
(2) Unscrew the fuser latching handle (L) ②, ③.



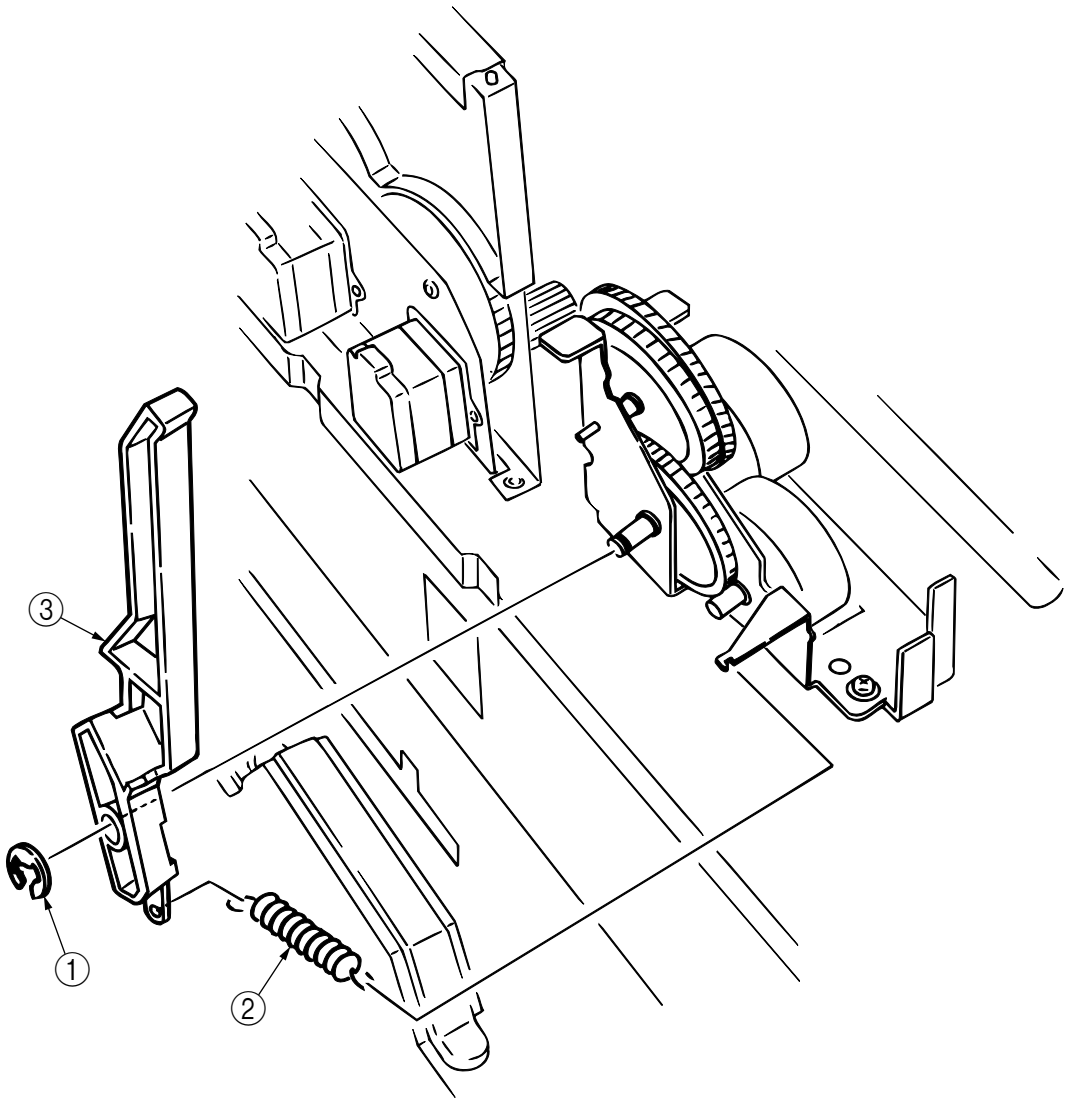
2.3.30 Belt motor Assy

(1) Remove the fuser latching handle (R) (see section 2.3.21).
(2) Unscrew the two screws ① to detach the two connector ②.
(3) Demount the belt motor Assy ③.



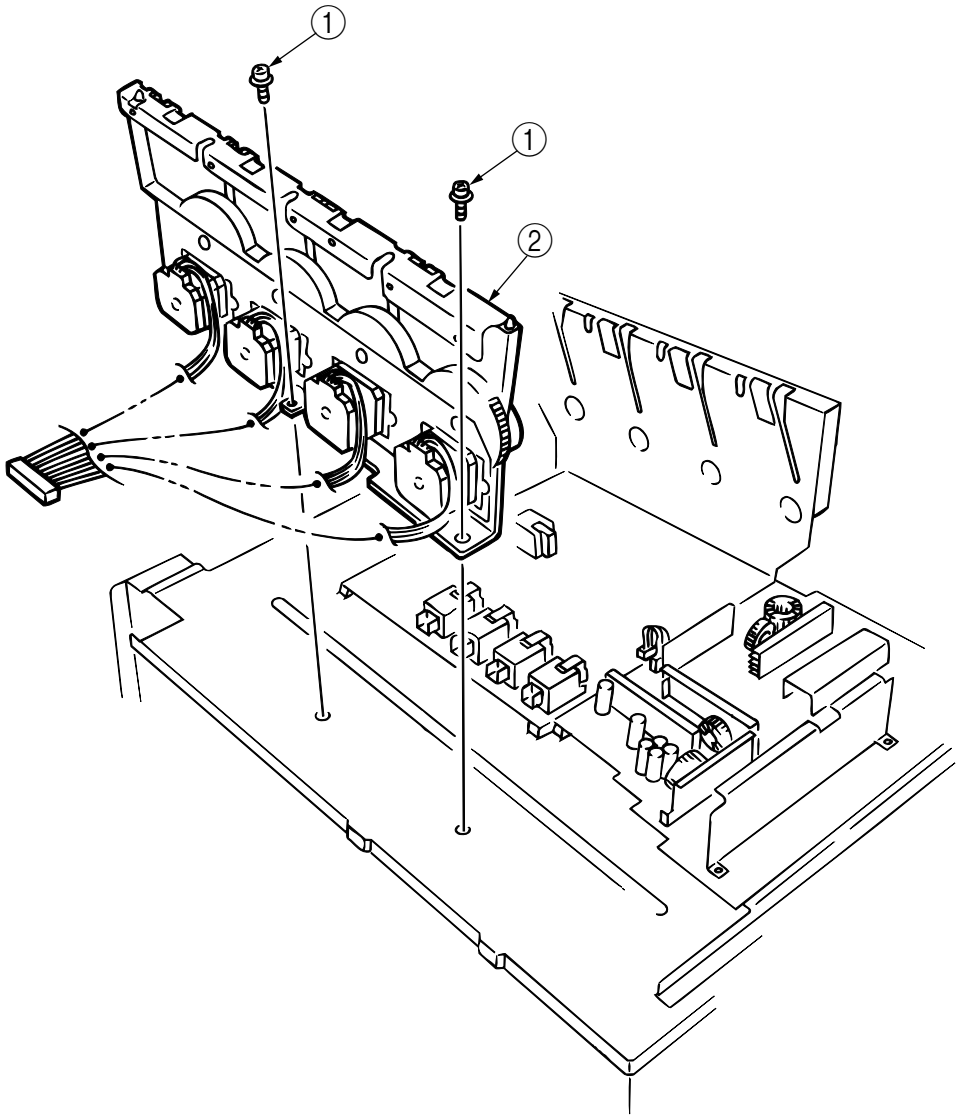
2.3.31 Fuser latching handle (R)

(1) Remove the printer unit chassis (see section 2.3.23).
(2) Remove the E ring ①.
(3) Remove the fuser latching handle spring ② to detach the fuser latching handle (R) ③.



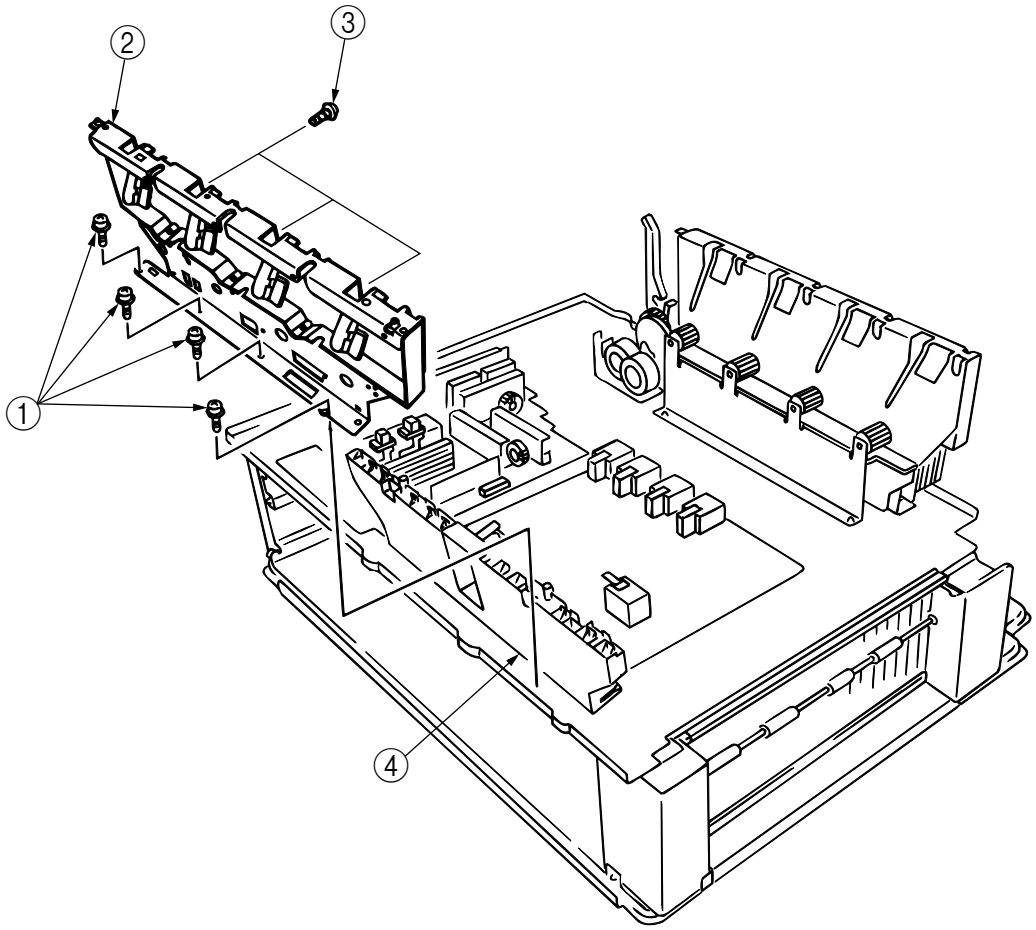
2.3.32 Main motor Assy

(1) Remove the belt motor Assy (see section 2.3.30).
(2) Remove all the connector.
(3) Remove the two screws ① to demount the main motor Assy ②.



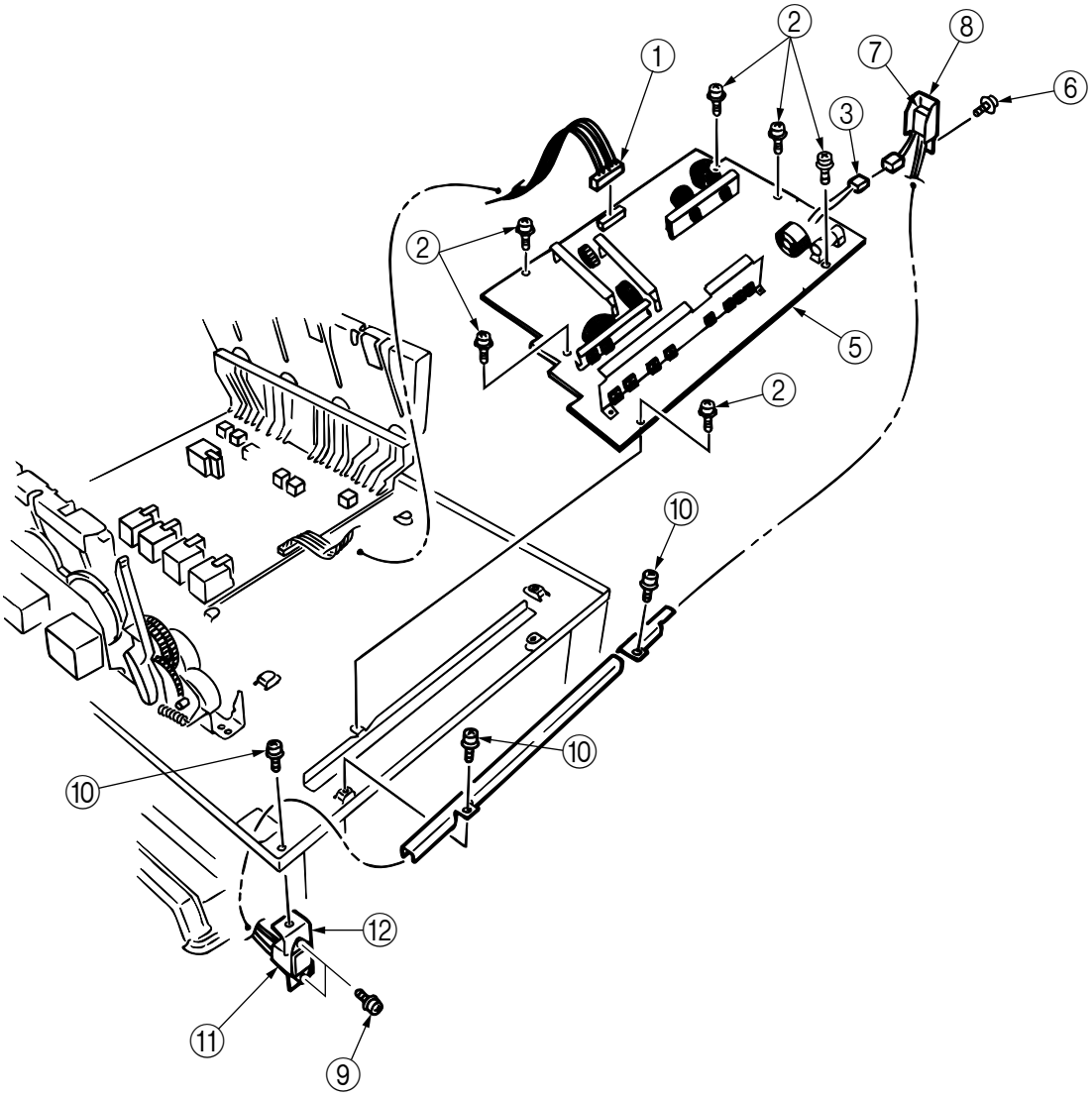
2.3.33 Contact Assy/ Side plate Assy

(1) Remove the printer unit chassis (see section 2.3.23).
(2) Remove the four screws ① to detach the side plate Assy ②.
(3) Remove the three screws ③ to detach the contact Assy ④.



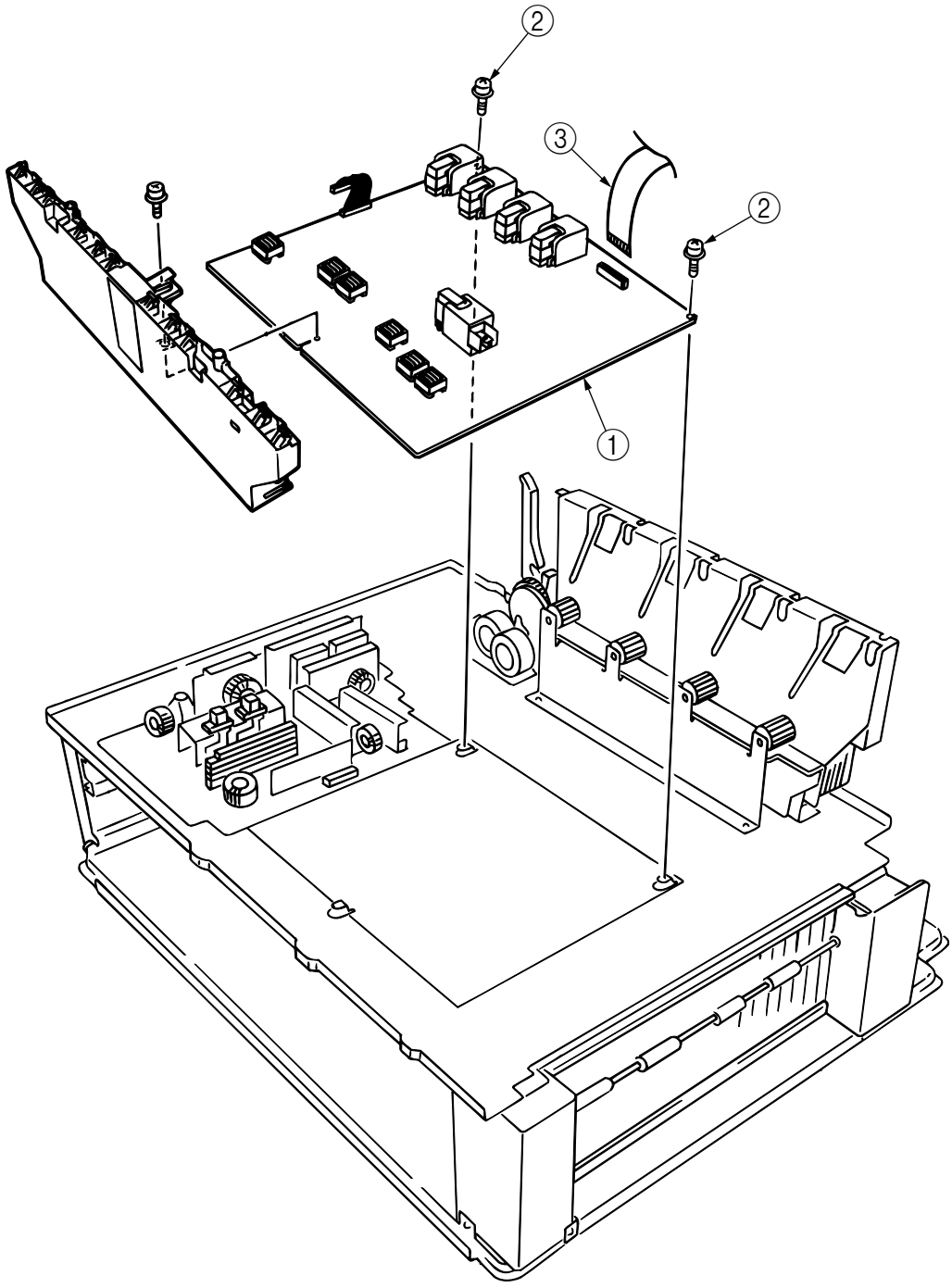
2.3.34 Low voltage power supply

(1) Remove the printer unit chassis (see section 2.3.23).
(2) Unhook the connector ①.
(3) Remove the eight screws ② to demount the low voltage power supply ⑤.



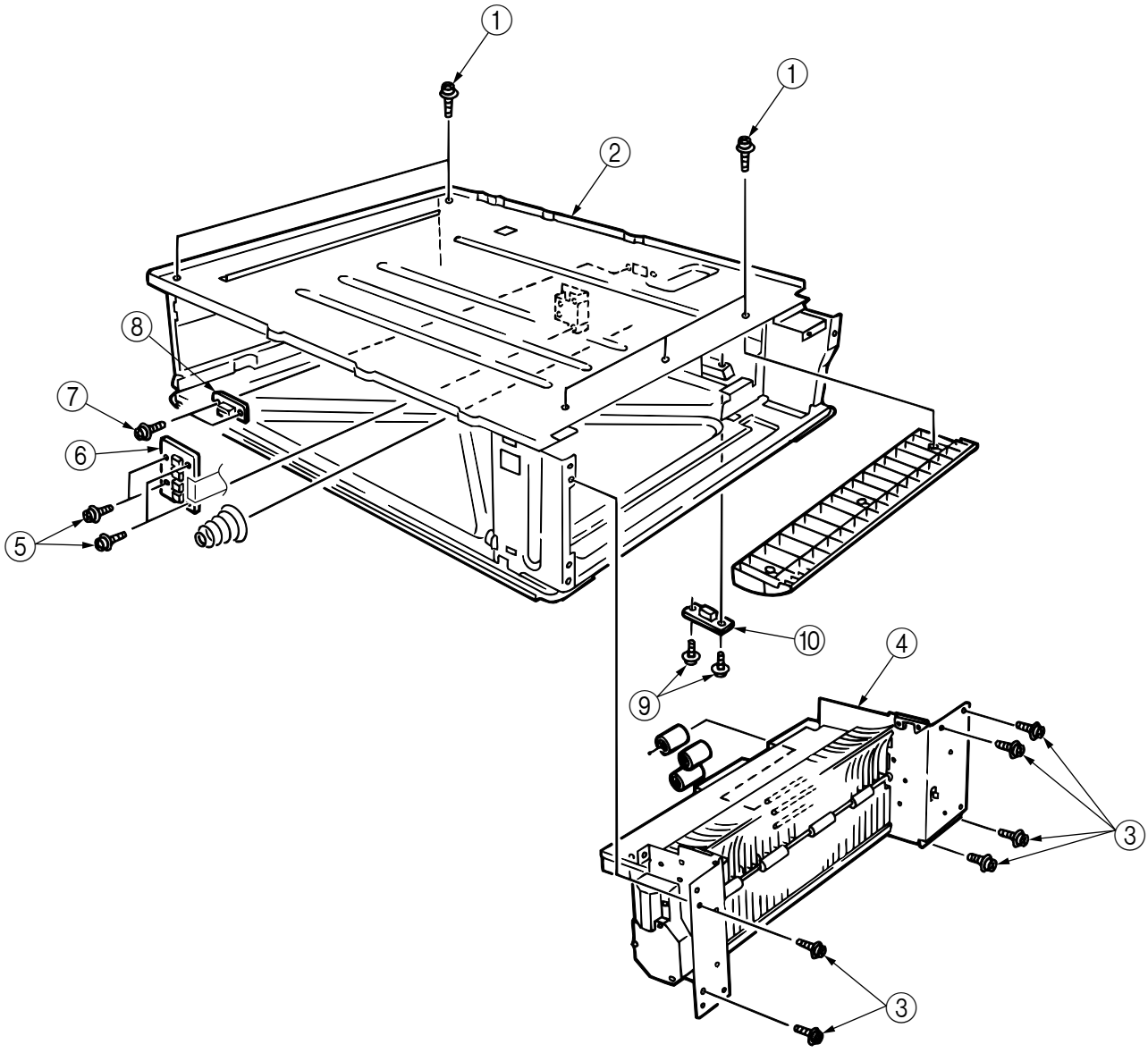
2.3.35 High voltage power supply

(1) Remove the contact Assy (see section 2.3.33).
(2) Unhook the connector of the high voltage power supply ①.
(3) Remove the two screws ② to detach the high voltage power supply ① and the tape harness ③.



2.3.36 Main feed Assy

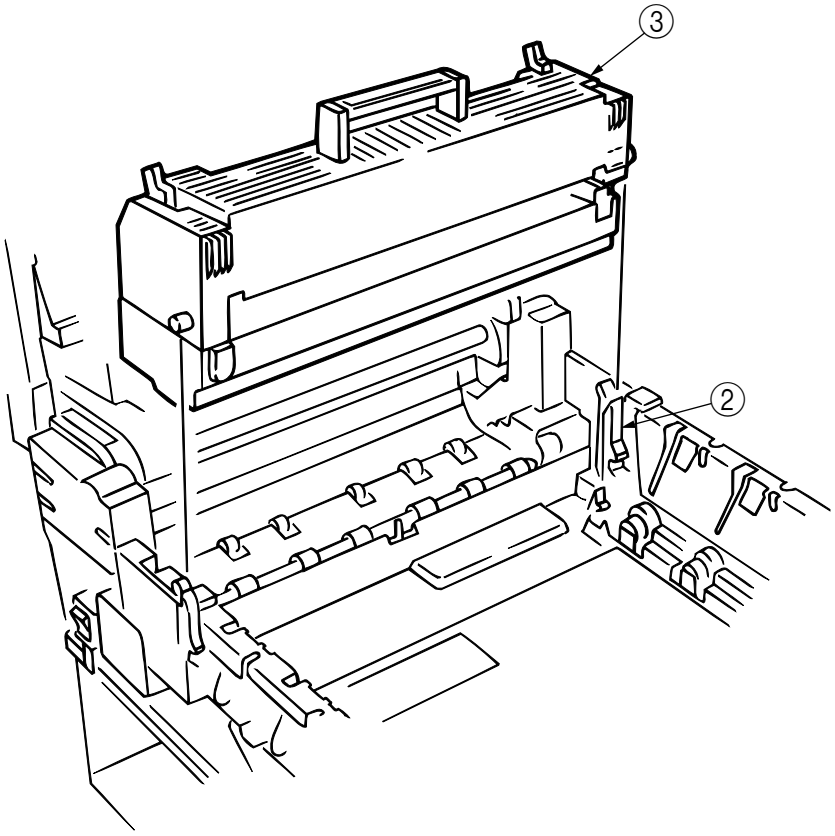
(1) Remove the printer unit chassis (see section 2.3.23).
(2) Remove the low voltage power supply and high voltage power supply (see sections 2.3.34 and 2.3.35).
(3) Unscrew the five screws ① to remove the lower plate ②.
(4) Unscrew the six screws ③ to demount the main feed Assy ④.
(5) Unscrew the screws ⑤ to detach the cable and then the PCB size board ⑥.
(6) Unscrew the screw ⑦ to detach the duplex connector ⑧.
(7) Unscrew the screws ⑨ to detach the second tray connector ⑩.



2.3.37 Fuser unit

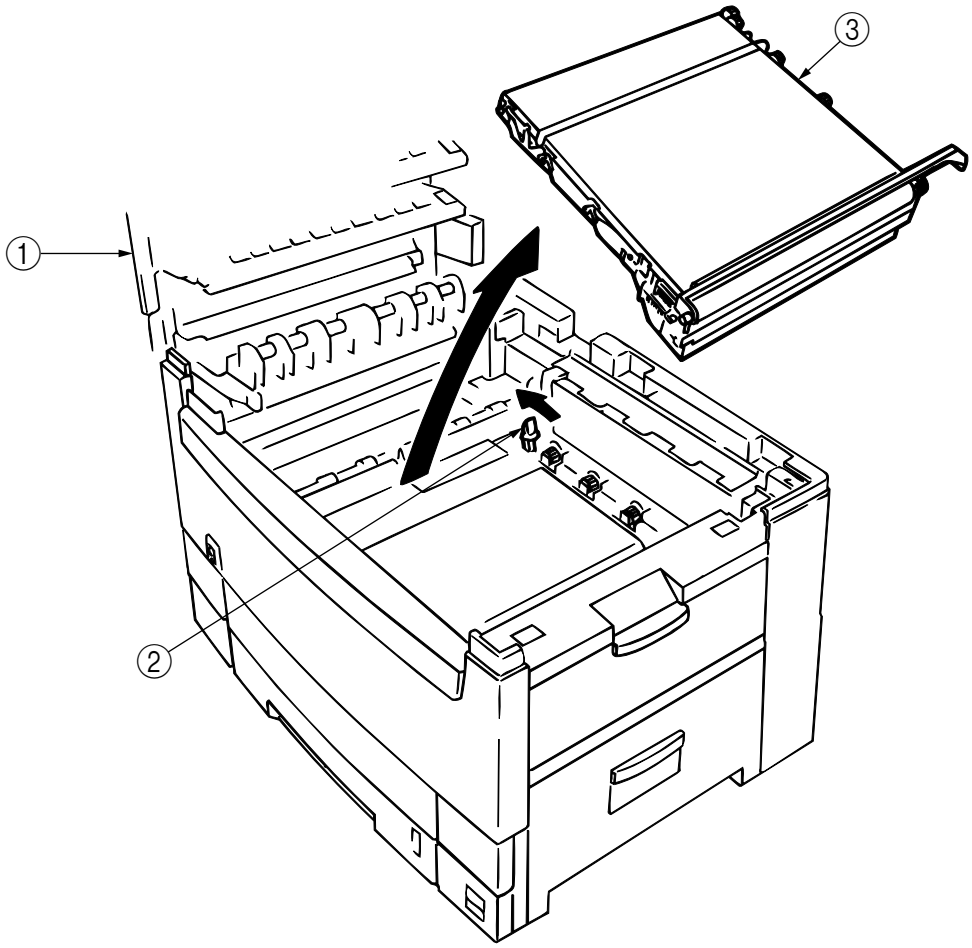
(1) Open the top cover ①.

(2) Push the right and left fuser levers (blue) ② in the arrow direction to detach the fuser unit ③.



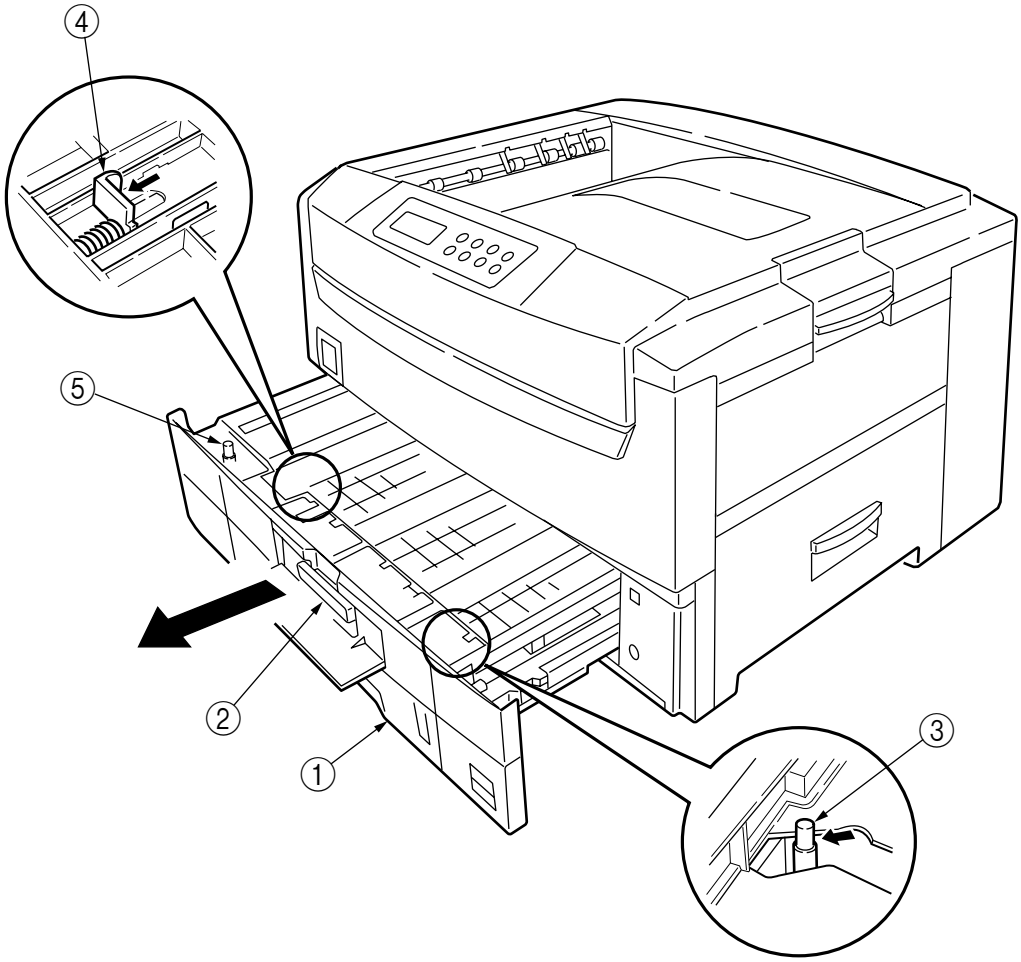
2.3.38 Belt unit

(1) Open the top cover ①.
(2) Remove the I/D unit.
(3) Push the lever (blue) ② in the arrow direction, raise the handle (blue) and detach the belt unit ③.



2.3.39 Duplex unit

(1) Remove the cassette Assy, the front cover and the front cover inner buffle.
(2) Unlatch the rear at the right and left and pull the duplex unit ① toward the front.



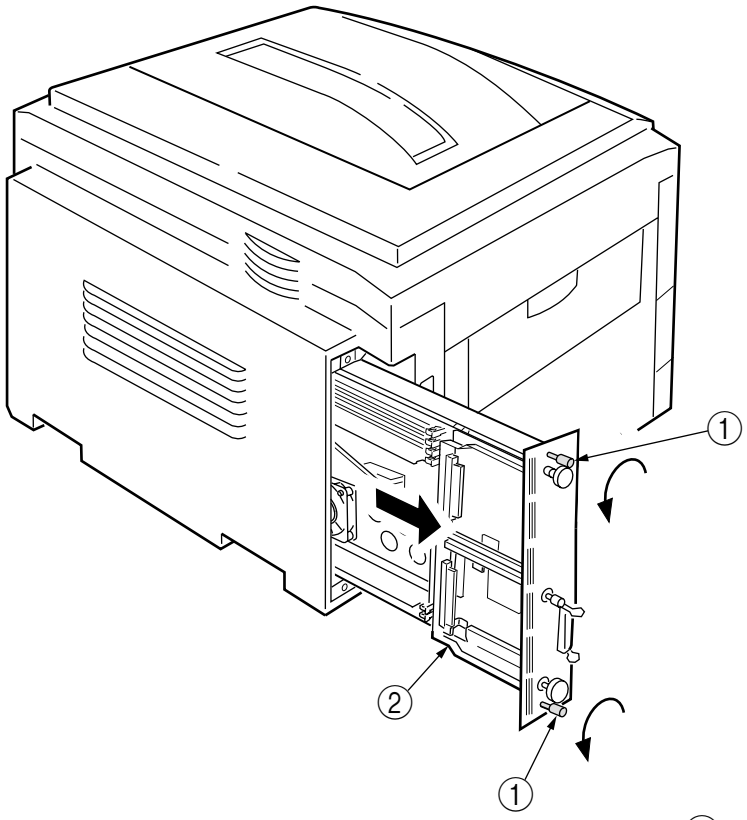
2.3.40 CU Assy

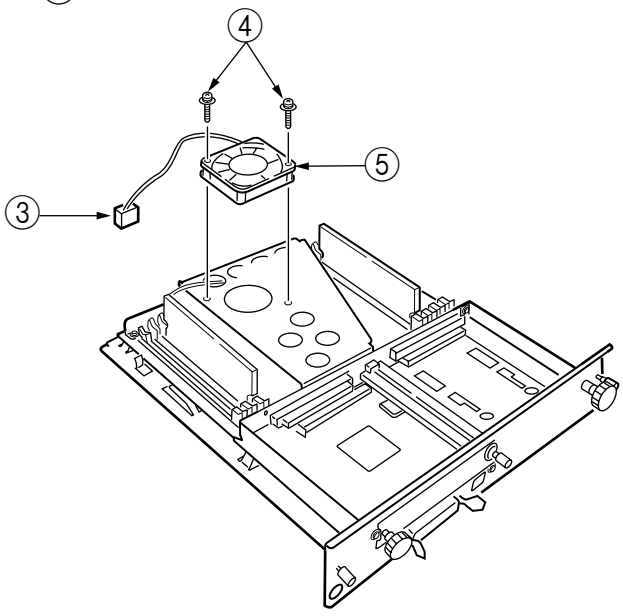
(1) Pulling out Control Board

1. Loosen the two screws ①.
2. Pull the control board ② out.
3. Place the control board ② on a flat table.

(2) Detaching Fan

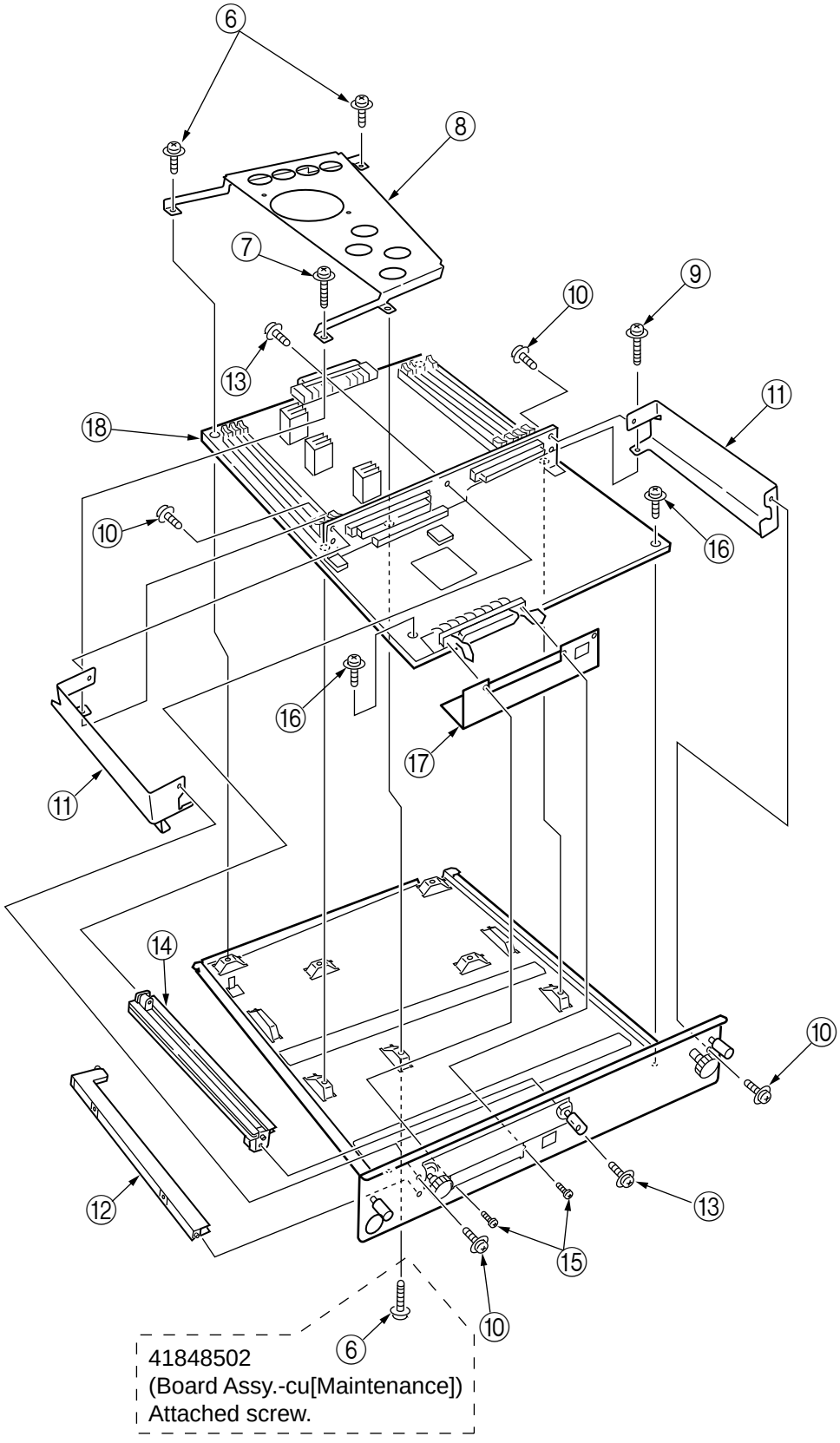
1. Remove the connector ③.
2. Remove the two screws ④.
3. Detach the fan ⑤.





(3) Demounting SWA Board

1. Remove the three screws ⑥ and screw ⑦ to detach the fan bracket ⑧.
2. Remove the screw ⑨ and four screws ⑩ to detach the plate support ⑪ and the guide rail A⑫.
3. Remove the two screws ⑬ to detach the guide rail B⑭.
4. Remove the two screws ⑮ and two screws ⑯ and the plate-FG(Centro) ⑰, then demount the SWA board ⑱.



3. ADJUSTMENT

Adjustments are carried out by key operations on the operator panel.

The maintenance menu is included in the general menu of this printer. Choose the maintenance menu for adjustment.

3.1 Maintenance Menu and Its Functions

The general menu has the category, MAINTENANCE MENU.
The items adjustable in this menu are shown on the next page.

Maintenance Menu

Category	Item(1st Line)	Value(2nd Line)	DF	Functions
MAINTENANCE MENU	Power Save Mode	Enabled Disabled	*	Sets the Power Save Mode enabled/disabled. The shift time to enable the Power Save mode can be changed according to the POWER SAVE SHIFT TIME item of SYSTEM CONFIG MENU.
	Normal Paper Black Setting	0 +1 +2 -2 -1	*	Implements fine adjustment of BLACK printing on normal paper when unclear characters or spots are often found on print results. With dispersed or snowed printing in the part at high-density, decrease the value. With unclear printing, increase the value.
	Normal Paper Color Setting	0 +1 +2 -2 -1	*	Implements fine adjustment of COLOR printing on normal paper when unclear characters or spots are often found on the print result. With dispersed or snowed printing in the part at high-density, decrease the value. With unclear printing, increase the value.
	Transparency Black Setting	0 +1 +2 -2 -1	*	Implements fine adjustment of BLACK printing on Transparency when unclear characters or spots are often found on the print result. With dispersed or snowed printing in the part at high-density, decrease the value. With unclear printing, increase the value.
	Transparency Color Setting	0 +1 +2 -2 -1	*	Implements fine adjustment of COLOR printing on Transparency when unclear characters or spots are often found on the print result. With dispersed or snowed printing in the part at high-density, decrease the value. With unclear printing, increase the value.

3.2 Short Plug Settings

The SWA board has two short plugs that can be set as follows:

Short Plug (WE1)
Sets flash ROM DIMM to connect WE signals.
(1-2 Short: Disconnects WE signals; 2-3 Short: Connects WE signals.)
The factory-shipped short plug is set to the 2-3 short: Re-programmable the Flash ROM DIMM.

Short Plug (WE2)
(Not use)

3.3 Printing Singly Using Controller-Equipped Printer

Menu Map Printing
Prints the program versions, controller block, and other printer configuration and settings.
Operation: (Press of Switch)
Without HDD: “0” → “3” → “3”
With HDD: “0” → “0” → “3” → “3”

File List Printing
Prints a list of files stored on a HDD or in ROM.
Operation: (Press of Switch)
Without HDD: “0” → “3” → “1” → “3”
With HDD: “0” → “0” → “3” → “1” → “3”

Font List Printing (PCL)
Prints a list of PCL fonts.
Operation: (Press of Switch)
Without HDD: “0” → “3” → “1” → “1” → “3”
With HDD: “0” → “0” → “3” → “1” → “1” → “3”

Font List Printing (PS)
Prints a list of PS fonts.
Operation: (Press of Switch)
Without HDD: “0” → “3” → “1” → “1” → “1” → “3”
With HDD: “0” → “0” → “3” → “1” → “1” → “1” → “3”

Demo Printing
Prints the demo patterns for destinations.
Operation: (Press of Switch)
Without HDD: “0” → “3” → “1” → “1” → “1” → “1” → “3”
With HDD: “0” → “0” → “3” → “1” → “1” → “1” → “1” → “3”

Ethernet Board Self-Diagnostic Printing
When equipped with an Ethernet board, the printer runs diagnostic checks on itself by holding the SW on the Ethernet board down for two seconds or more, and prints the results.

3.4 Adjustment after Part Replacement

Adjustment to be implemented after each part replacement is described below.
Adjustment and correction of color registration are always required for each part replacement.

Replaced Part	*Adjustment*
LED Head	Color balance adjustment
Drum Cartridge (Y, M, C, K)	Not required.
Fuser Unit	Not required.
Belt Cassette Assy	Not required.
PU (K73 Board)	Re-mounting the EEPROM used prior to the replacement *Note

**Note:* When the EEPROM of the PU (K73 Board) is replaced to a new one, color balance must be adjusted.

3.5 Color Balance Adjustment

Color balance has been adjusted appropriately when a printer is shipped from the plant. However, it may be out of the appropriate balance during use. In such a case, color balance should be modified.

Note: Density of each color depends on each other. Therefore, adjustment must be repeated several times to reach the correct color balance.

(1) Set A4 papers in the tray specified on the operator panel.

(2) Press ⓪ several times to display [COLOR MENU].

(3) Press ① or ⑤ to display [COLOR BALANCE CORRECTION/PATTERN PRINT].

(4) Press ③ to start test printing.

(5) Press ① to display [COLOR BALANCE CORRECTION/RESET].

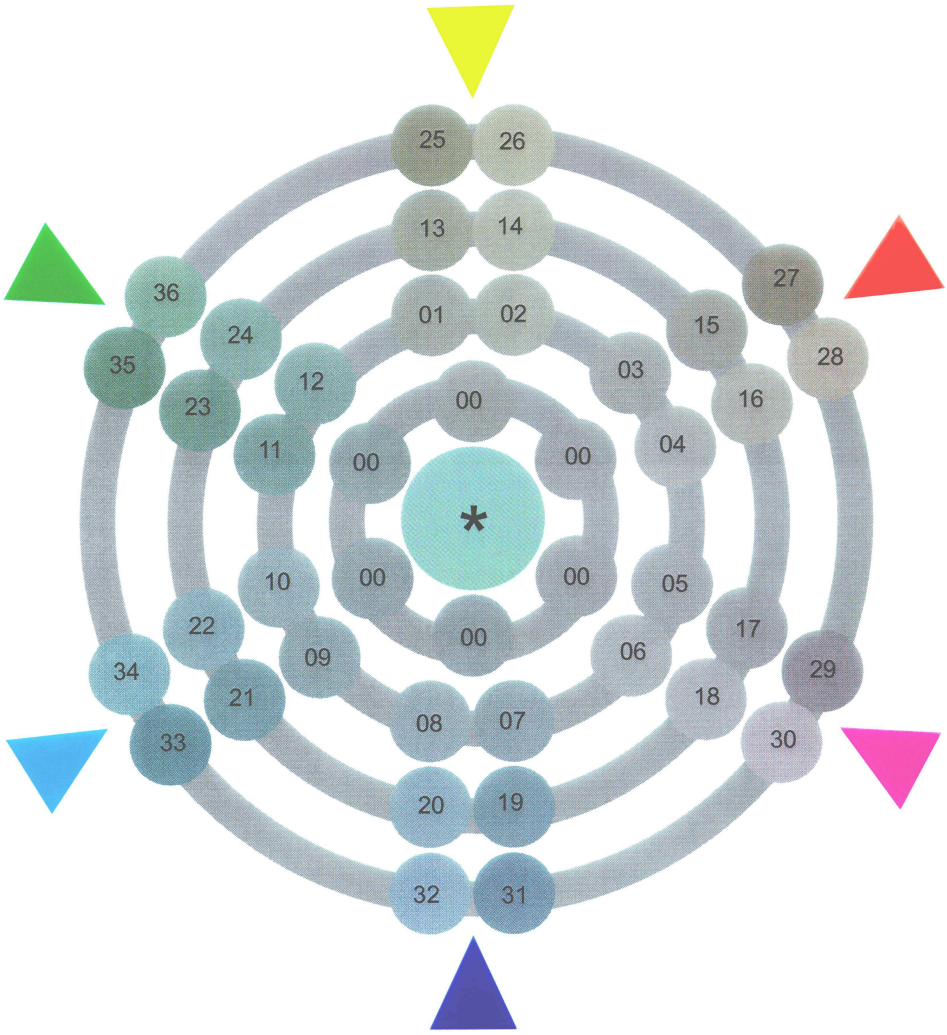
(6) Choose the number of the color closest to the [(] part on the test pattern.
If the selected color is [00], the color balance is correct and no adjustment is required.
If it is not [00], the color balance should be adjusted in the procedures below.

(7) Press ② or ⑥ several times to display the value selected in Step (6).

(8) Press ③ to start test printing.

(9) Repeat the steps (6)~(8) to approximate the color at the [(] part on the test pattern to [00] as much as possible.

(10) Press ④ to display [ON LINE].


25
26
13
14
27
36
01
02
15
24
28
35
03
12
00
16
23
04
11
00
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00
05
22
17
00
06
09
34
29
21
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33
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19
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31

3.6 EEPROM Replacement after SWA Board and K73 Board Replacement

When replacing the SWA Board or K73 Board, the EEPROM used by the user must be removed and re-mounted on the new board (to deliver the user setting and font installment information to the new board).
If the EEPROM used by the user is broken and not suitable for further use, the EEPROM on the new board may be used.

4. REGULAR MAINTENANCE

4.1 Parts to be Replaced Regularly

It is recommended that a user should replace the parts below regularly according to the replacement standard. (If not replaced, print quality is not assumed or it may result in a failure.)

Part Name	Time for Replacement	Replacement Condition	Adjustment after Replacement
Large-capacity Toner Cartridge	When the message “Toner Low” is displayed.	After 15,000 copies have been printed.	Replace the Toner cartridge.
Toner Cartridge		After 7,500 copies have been printed.	
ID Cartridge	When the message “Drum Life” is displayed.	After 26,000 copies have been printed. (at 3P/J)	Reset the drum counter after drum replacement.
Fuser Unit	When the message “Fuser Life” is displayed.	After 80,000 copies have been printed.	Reset the fuser counter.
Belt Unit	When the message “Belt Life” is displayed.	After 80,000 copies have been printed. (at 3P/J)	Reset the belt counter.

The above regular part replacement is performed by a user.

4.2 Cleaning

The inside and outside of this printer should be cleaned with wastes and hand cleaner, if necessary.

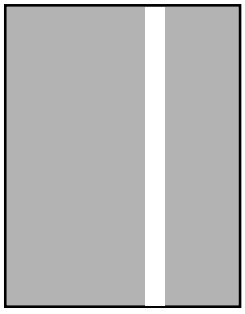
Note: Do not touch the Image drum terminal, LED lens array and LED head connectors.

4.3 Cleaning of LED Lens Array

When a longitudinal white band or stripes (that is, void or light printing) appear on a printed paper surface, the LED lens array should be cleaned.

Note: The LED head cleaner must be used to clean the LED lens array. (The LED head cleaner is included in the Toner cartridge box.)

White band, white stripes
(Void or light printing)



4.4 Cleaning of Pick-up Roller

When papers are not fed normally, the Pick-up roller should be cleaned.

Note: Clean it with such as soft clothes and alcohol. Be cautious not to damage the roller surface.

5. TROUBLESHOOTING PROCEDURES

5.1 Tips for Troubleshooting

(1) Check the basic check points covered in the user's manual.

(2) Gather as much information on the problem from the customer as possible.

(3) Perform inspections in conditions close to those in which the problem had occurred.

5.2 Check Points before Correcting Image Problems

(1) Is the printer being run in proper ambient conditions?

(2) Have the consumables toner and image drum cartridges been replaced properly?

(3) Is the paper normal? See paper specifications section.

(4) Has the image drum cartridge been loaded properly?

5.3 Tips for Correcting Image Problems

(1) Do not touch, or bring foreign matter into contact with the image drum surface.

(2) Do not expose the image drum to direct sunlight.

(3) Keep hands off the fuser unit as it is heated during operation.

(4) Do not expose the image drum to light for longer than 5 minutes at room temperature.

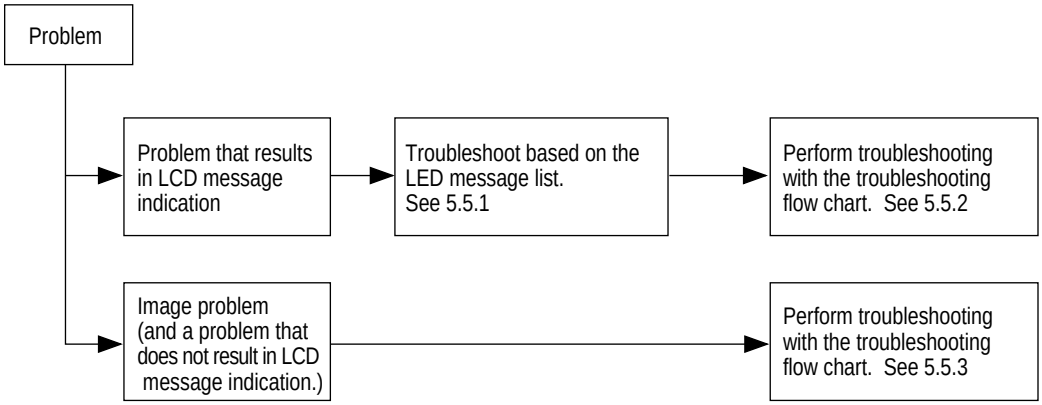
5.4 Preparation for Troubleshooting

(1) Operator panel display

The failure status of this printer is indicated on the LCD (liquid crystal display) of the Operator panel.
Take the proper corrective action according to the message displayed on the LCD.

5.5 Troubleshooting Flow

If a problem should develop in this printer, troubleshoot in the following procedure.



5.5.1 LCD Message List

The printer indicates a Service Call Error message on the LCD as shown below, detecting an unrecoverable error.

Service Call
nnn : Error

Note: nnn is an error code.

When the Service Call message is displayed, the error information corresponding to the error code appears on the lower line of the LCD. The meaning and solutions of each error code are listed in the Table 5-1-1.

Table 5-1-1 Operator Alarms (1/6)

Message	Cause	Error Description		Solutions
Service Call 001: Error ~ 011: Error	CPU Exception	Is the error message displayed again? Is the error message displayed again?	Yes Yes	Turn the printer off/on. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 020: Error	CU ROM Hash Check Error 1	Is the program ROM DIMM installed properly? Can the printer recover from the error by replacing the program ROM DIMM?	No Yes No	Re-install the program ROM DIMM. Replace the program ROM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 030: Error	CU Slot1 DIMM RAM Check Error	Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No Yes No	Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 031: Error	CU Slot2 DIMM RAM Check Error	Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No Yes No	Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 032: Error	CU Slot3 DIMM RAM Check Error	Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No Yes No	Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 033: Error	CU Slot4 DIMM RAM Check Error	Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No Yes No	Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 034: Error	RAM Configuration Error. The CU RAM installation or derwas not followed.	Is the installation order followed? Can the printer recover from the error by replacing the RAM DIMMs?	No Yes No	Correct the installation order. Replace the RAM DIMMs. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 035: Error	Slot1 RAM Spec Error. The CU RAM Slot1 DIMM specification is not supported.	Is the RAM DIMM a genuine part? Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No No Yes No	Use a genuine RAM DIMM. Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 036: Error	Slot2 RAM Spec Error. The CU RAM Slot2 DIMM specification is not supported.	Is the RAM DIMM a genuine part? Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No No Yes No	Use a genuine RAM DIMM. Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 037: Error	Slot3 RAM Spec Error. The CU RAM Slot3 DIMM specification is notsupported.	Is the RAM DIMM a genuine part? Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No No Yes No	Use a genuine RAM DIMM. Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)
Service Call 038: Error	Slot4 RAM Spec Error. The CU RAM Slot4 DIMM specification is notsupported.	Is the RAM DIMM a genuine part? Is the concerned RAM DIMM installed properly? Can the printer recover from the error by replacing the RAM DIMM?	No No Yes No	Use a genuine RAM DIMM. Re-install the concerned RAM DIMM. Replace the RAM DIMM. Replace the SWA board. (The EEPROM needs replacement.)

Table 5-1-1 Operator Alarms (2/6)

Message	Cause	Error Description		Solutions
Service Call 040: Error	CU EEPROM Error	Can the printer recover from the error by replacing the EEPROM on the CU board?	Yes	Replace the EEPROM. (Settings of the user must be restored on the new.)
			No	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 041: Error	U Flash Error. On-CU-board Flash ROM Error	Does the error message appear again?	Yes	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 050: Error	Operator Panel Error	Does the error message appear again?	Yes	See the flowchart for the problems with no LCD message displayed.
Service Call 051: Error	CU Fan Error. On-CU-board CPU Cooling Fan Problem	Is the on-CU-board connector connected properly?	No	Connect the connector properly.
		Can the printer recover from the error by replacing the fan?	Yes	Replace the fan.
			No	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 063: Error	Network Comm.Error. CU ~ NIC H/W I/F Problem	Is the network board installed properly?	No	Install the network board properly.
		Can the printer recover from the error by replacing the network board?	Yes	Replace the network board.
			No	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 070: Error	CANT_HAPPEN. PS F/W Problem Detection	Is it recovered by turning the printer off/on.	No	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 072: Error	Engine Communication Error PU ~ CU I/F Error	Is the CU Assy installed properly?	No	Install the CU Assy properly.
		Can the printer recover from the error by replacing the SWA board?	Yes	Replace the SWA board. (The EEPROM needs replacement.)
			No	Replace the PU board.
Service Call 073: Error ~ 075: Error	Video Overrun Detect	Is the CU Assy installed properly?	No	Install the CU Assy properly.
		Can the printer recover from the error by replacing the SWA board?	Yes	Replace the SWA board. (The EEPROM needs replacement.)
Service Call 090:Error	Error detected at Staple-Motor in the Finisher.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the Stapler-Motor in the Finisher.
Service Call 091: Error	Error detected at Tray-Elevator-Motor in the Finisher.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the Tray-Elevator-Motor in the Finisher.
Service Call 092: Error	Error detected at Ignition-Belt-Motor of bin#2 in the Finisher.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the Ignition-Belt-Motor of bin#2 in the Finisher.
Service Call 093: Error	Error detected at Jogging-Motor in the Finisher.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the Jogging-Motor in the Finisher.
Service Call 094: Error	Error detected at Main-Feed-Motor in the Finisher.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the Main-Feed-Motor in the Finisher.
Service Call 100/100:Error	Error detected at Engine ROM Checksum when turned on.	Does the error repeat?	No	Replace the PU board.
			Yes	Replace the engine control board (K73).
Service Call 102: Error	Error detected at Engine RAM Read/Write when turned on.	Does the error repeat?	Yes	Replace the engine control board (K73).
Service Call 103: Error	Error detected at Engine SRAM Read/Write when turned on.	Does the error repeat?	Yes	Replace the engine control board (K73).
Service Call 104: Error	Error detected at Engine EEPROM Checksum when turned on.	Does the error repeat?	Yes	Replace the engine control board (K73).
Service Call 105: Error	EEPROM not detected when turned on.	No EEPROM?	Yes	Confirm the existence of EEPROM. Without it, mount an EEPROM.
		Does the error repeat?	Yes	Replace the engine control board (K73).

Table 5-1-1 Operator Alarms (3/6)

Message	Cause	Error Description		Solutions
Service Call 106: Error	Error detected at Engine Control Logic.	Does the error repeat?	Yes	Replace the engine control board (K73).
Service Call 120: Error	Error detected at cooling fan for Engine PCB (PCB-K73).	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Refer fig.5.5.1 A power supply-related error.
Service Call 121: Error	Error detected at two Power Unit cooling fans. /Error detected at Power Unit temperature rise. /Error detected at Charge output or Interface signals in High-voltage Power Unit.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Refer fig.5.5.1 A power supply-related error.
Service Call 122: Error	Error detected at fan for a heater exhaust gas.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Refer fig.5.5.1 A power supply-related error.
Service Call 123: Error	Inappropriate ambient RH detected by a sensor.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the RH sensor.
Service Call 124: Error	Inappropriate ambient temp. detected by a sensor.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the temperature sensor.
Service Call 125: Error	Error detected at the MT home position.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the MT.
Service Call 130: Error	Temperature rise at the LED head detected.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off the printer, leave it for 30 min and then turn it on again. Replace the LED head unit.
Service Call 131: Error ~ 134: Error	No LED head unit detected when turning on the printer or closing the cover.	1) Is the error message displayed? 2) Is the LED head mounted properly? 3) Does the error repeat?	Yes Yes Yes	Verify the installation of the LED head. Turn off/on the printer. Replace the LED head Assy.
Service Call 140: Error ~ 142: Error	Error detected with the D located at appropriate position.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the Drum Assy.
Service Call 150: Error ~ 153: Error	Fuse in the ID unit has not been blown.	Is the ID unit mounted properly?	Yes	Confirm the cable connection, or replace the Engine board.
Service Call 154: Error	Fuse in the Belt unit has not been blown.	Is the Belt unit mounted properly?	Yes	Confirm the cable connection, or replace the Engine board.
Service Call 155: Error	Fuse in the Fuser unit has not been blown.	Is the Fuser unit mounted properly?	Yes	Confirm the cable connection, or replace the Engine board.
Service Call 160: Error ~ 163: Error	Error detected by Toner sensor.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Replace Toner sensor or Assy (Y71-PWB). Same as the above.
Service Call 170: Error 171: Error 174: Error 175: Error	Short or open circuit detected at the Fusert hermistor. (H or L temperature error)	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the Thermistor and turn off the printer. Leave it for 30 min.
Service Call 172: Error 176: Error	High temperature error detected at Thermistor.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the Thermistor and turn off the printer. Leave it for 30 min.
Service Call 173: Error 177: Error	Low temperature error detected at Thermistor.	1) Is the error message displayed? 2) Does the error repeat?	Yes Yes	Turn off/on the printer. Replace the Thermistor or heater and turn off the printer.

Table 5-1-1 Operator Alarms (4/6)

Message	Cause	Error Description		Solutions
Service Call 181: Error ~ 185: Error	Communication failure with an option unit detected by Engine	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does the error repeat?	Yes	Replace the option unit.
Service Call 186: Error	Error detected at Interface to the Finisher-Unit.	1) Is the error message displayed?	Yes	Turn off/on the printer.
		2) Does Interface cable to the finisher connect properly?	Yes	Re-connect Interface cable finisher and turn off/on the printer.
		3) Does AC cable to the finisher connect properly?	Yes	Re-connect AC cable finisher and turn off/on the printer.
		4) Does the error repeat?	Yes	Replace the Interface cable or AC cable.
Close Cover 310: CCCC CoverOpen (* = A4, B4 etc.)	Printer engine cover is open.	1) Is the Top cover open?	Yes	Close the Top cover.
		2) Does the Cover switch operatenormally?	Yes	Close the Side cover.
			No	Replace the Cover switch.
Check Fuser 320: Fuser Error	No Fuser unit detected when turning on the printer or closing the cover.	1) Is the error message displayed?	Yes	Confirm the existence of the unit.
		2) Is the Fuser unit mounted properly?	No	Re-install the Fuser unit and turn off/on the printer.
		3) Does the error repeat?	Yes	Replace the Fuser unit Assy.
Check Belt 330: Belt Error	No Belt unit detected when turning on the printer or closing the cover.	1) Is the error message displayed?	Yes	Confirm the existence of the unit.
		2) Is the Belt unit mounted properly?	No	Re-install the Belt unit and turn off/on the printer.
		3) Does the error repeat?	Yes	Replace the Belt unit Assy.
Check Drum 340~343: Drum Error	No ID unit detected when turning on the printer or closing the cover.	1) Is the error message displayed?	Yes	Confirm the existence of the unit.
		2) Is the ID unit mounted properly?	No	Re-install the ID unit and turn off/on the printer.
		3) Does the error repeat?	Yes	Replace the ID unit Assy.
Install New Drum 350: Y Drum Life 351: M Drum Life 352: C Drum Life 353: K Drum Life	End of the ID unit life. 26,000 or more copies printed.	Is it displayed soon after the ID unit replacement?	Yes	Confirm the life of the ID unit.
			No	Replace the ID unit.
Install Duplex Unit 360: No Duplex unit	The Duplex unit is removed from the printer.	Recovered if the Duplex unit is inserted again?	Yes	Normal
			No	Replace the Duplex unit or Engine board.
Remove Finisher 361: Paper Jam	Paper jam detected at befor input area.	Is a paper jammed at befor input area?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.361)
			No	Replace the Finisher unit.
Remove Finisher 362: Paper Jam	Paper jam detected at input area.	Is a paper jammed at input area?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.362)
			No	Replace the Finisher unit.
Remove Finisher 363: Paper Jam	Paper jam detected at regist roller.	Is a paper jammed at regist roller?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.363)
			No	Replace the Finisher unit.
Remove Finisher 364: Paper Jam	Paper jam detected at invert path.	Is a paper jammed at invert path?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.364)
			No	Replace the Finisher unit.
Remove Finisher 365: Paper Jam	Paper jam detected at invert stack.	Is a paper jammed at invert stack?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.365)
			No	Replace the Finisher unit.
Remove Finisher 366: Paper Jam	Paper jam detected at Bin#1 exit.	Is a paper jammed at Bin#1 exit?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.366)
			No	Replace the Finisher unit.
Remove Finisher 367: Paper Jam	Paper jam detected at Bin#2 exit.	Is a paper jammed at Bin#2 exit?	Yes	Remove the jammed paper.(See Fig. 5.5.2 No.367)
			No	Replace the Finisher unit.
Check DUPLEX 370: Paper Jam	Paper jam detected after paper reverse in the Duplex unit.	1) Is a paper jammed in the Duplex unit?	Yes	Remove the jammed paper.
			No	Check the Duplex unit, or replace it.
Check DUPLEX 371: Paper Jam	Paper jam detected at the Duplex unit	1) Is a paper jammed in the Duplex unit?	Yes	Remove the jammed paper.
			No	Check the Duplex unit, or replace it.

Table 5-1-1 Operator Alarms (5/6)

Message	Cause	Error Description		Solutions
Check DUPLEX 372: Paper Jam	Paper jam detectedd uring paper feed from the Duplex unit.	1) Does misfeed occur in the Duplex unit?	Yes No	Remove the misfed paper and close the cover. Check the Duplex unit, or replace it.
Open Side Cover 380: Paper Jam	Paper jam during paper feed from the Cassette 1, 2, 3, 4 or 5.	1) Does misfeed occur in the specified cassette?	Yes No	Remove the jammed paper and install the cassette. Check the Cassette 1, 2, 3, 4 or 5, or replace it.
Open Stacker Cover 381: Paper Jam	Paper jam detected btwn the B ID and Fuser.	1) Is a paper jammed between the Y ID and Fuser? 2) Is the load on the Fuser unit normal?	Yes No	Remove the jammed paper. Replace the Fuser unit.
Open Stacker Cover 382: Paper Jam	Paper jam detected in the Fuser unit or btwn the Fuser and paper ejection.	1) Is a paper jammed in the Fuser unit or between the Y ID and Fuser unit? 2) Is the Paper eject switch work normally?	Yes No	Remove the jammed paper. Replace the Fuser unit.
Open Stacker Cover 383: Paper Jam	Paper jam detected on paper entering the Duplex unit.	1) Is a paper jammed at the entrance of the Duplex unit or in the unit?	Yes No	Remove the jammed paper and close. Check the Duplex unit, or replace it.
Check MP Tray 390: Paper Jam	Paper jam during paper feed from the MP Tray.	1) Does misfeed occur around the MP Tray?	Yes No	Remove the misfed paper and close the cover. Check the MP Tray, or replace it.
Check Tray * 391~395: Paper Jam	Paper jam detected btwn a cassette and the B ID.	1) Is a paper jammed around the cassette or between the B ID and cassette. 2) Does the Paper entry switch operate normal?	Yes No	Remove the jammed paper. Replace the Paper entry switch.
Open Stacker Cover 400: Paper Size Error	Paper in a size different (45 mm or more) from the specification detected at the Printer engine.	1) Is the paper in a custom size? 2) Is the paper in the standard size?	Yes Yes No	No action required. Adjust the Paper size guide of the cassette. Replace the Paper size board (B73 PWB).
Toner Low 410: Yellow 411: Magenta 412: Cyan 413: Black	Toner in one of the four colors is running short.	1) Is the specified toner cartridge almost empty? 2) Does the Toner sensor of the specified cartridge operate normally?	Yes No	Replace it with a new toner kit. Replace the Toner sensor for the specified color.
Check Stapler Cartridge 471: Stapler Cartridge Missing	Stapler cartridge is not mounted in the Finisher.	1) Is the message displayed? 2) Does the error repeated?	Yes Yes	Turn off/on the printer. Mount the Stapler Cartridge.
Check Punch Chip Box 472: Punch Chip Box Missing	Punch chip box is not mounted in the Finisher.	1) Is the message displayed? 2) Does the error repeated?	Yes Yes	Turn off/on the printer. Mount the Punch Chip Box.
Install Finisher 473: Finisher is Removed	The Finisher is separated.	1) Is the message displayed? 2) Does the error repeated?	Yes Yes	Turn off/on the printer. Install the Finisher.
Remove Printed Papers 480: Stacker Full	The stacker for ejected papers is full.	1) Is the stacker full? 2) Does the Stacker full sensor operate normally?	Yes No	Remove papers from the stacker. Replace the Stacker full sensor.
Load *** Papers 490: No paper in the MP Tray (*** = A4, B5 etc.)	The specified cassette has no paper or is removed. Or, the cassette be ingused for printing has no more paper.	1) No paper in MT? 2) Does the Paper out sensor operate normally?	Yes No	Load papers in MT. Replace the Paper out sensor.

Table 5-1-1 Operator Alarms (6/6)

Message	Cause	Error Description		Solutions
Load *** Papers 491~495: No paper in the Tray * (*** = A4, B5 etc.)	No paper in the Cassette 1, 2, 3, 4 or 5 detected.	1) No paper in the specified cassette?	Yes	Load papers in the specified cassette.
		2) Does the Paper out sensor operate normally?	No	Replace the Paper out sensor of the specified cassette.
Replace Belt	The belt counter has reached the life value.	1) Is the error message displayed?	Yes	Check the belt life.
		2) Does the error occur soon after Belt unit replacement?	No	Replace the Belt unit immediately or at the next maintenance.
Replace Fuser	The fuser counter has reached the lifevalue	1) Is the error message displayed?	Yes	Check the fuser life.
		2) Does the error occur soon after Fuser unit replacement?	No	Replace the Fuser unit immediately or at the next maintenance.
Job Offset Home Error	The Job offset assy does not operate or cannot detect the home position.	Does the Job offset assy operate normally?	Yes	Replace the Job offset sensor.
			No	Replace the Job offset motor or Engine board.
Running Short of Paper in Tray *	Running short of paper detected	Does only small mount of papers (approx. 30 sheets or less) remain?	Yes	Load papers.
			No	Check the Paper near end sensor.
Disc Operation Error	HDD cannot be written.	Is the operating procedure correct?	No	Confirm the procedure in the manual.
			Yes	Replace the HDD as it is broken.

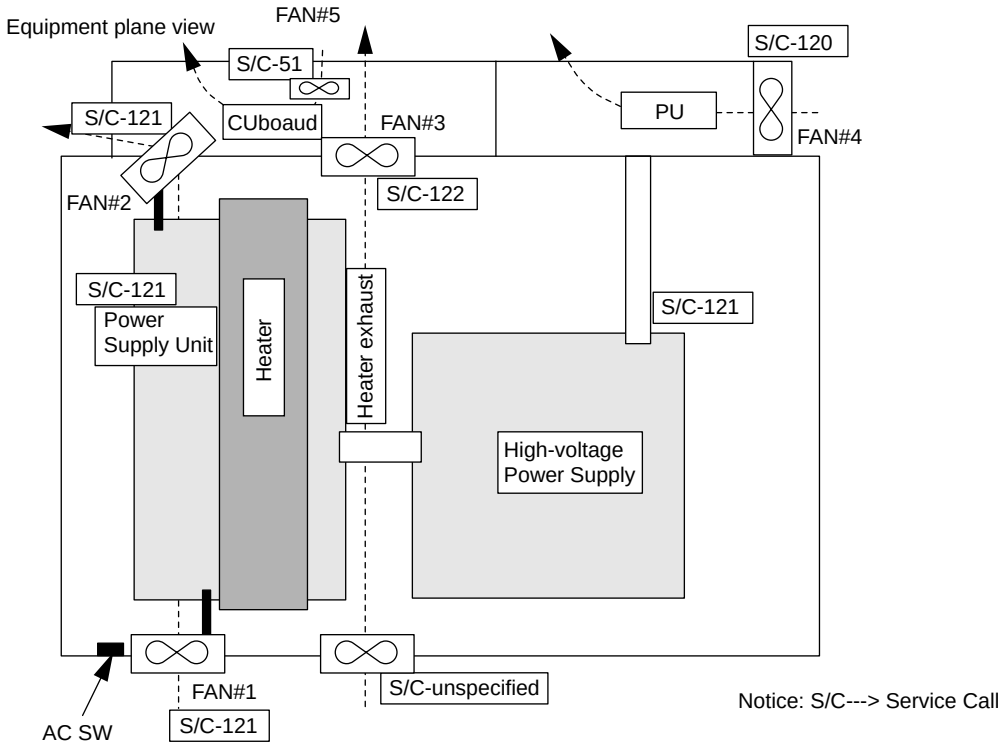


Figure 5.5.1 A Power Supply-related Error

S/C	Description	Action
120	Error detected at cooling fan for Engine PCB(PCB-K73 PU board).	Change FAN#4.
121	Error detected at two Power Unit cooling fans./ Error detected at Power Unit temperature rise./ Error detected at charge output or Interface signals in High-voltage Power Unit.	Change FAN#1 or / and FAN#2 when a error occurs and the FAN#1 or FAN#2 are not turnning. In this case, please also check contents of 5.5.2 LCD message troubleshooting-⑥Fan motor error. If Both FAN#1 and FAN#2 are turnning, change a Belt-Unit. If an error occurs also with this means, change a High-Voltage Power Supply Unit. If an error occurs also with this means, change a Power Supply Unit.
122	Error detected at fan for a heater exhaust gas.	Change FAN#3.

Numbers are error code

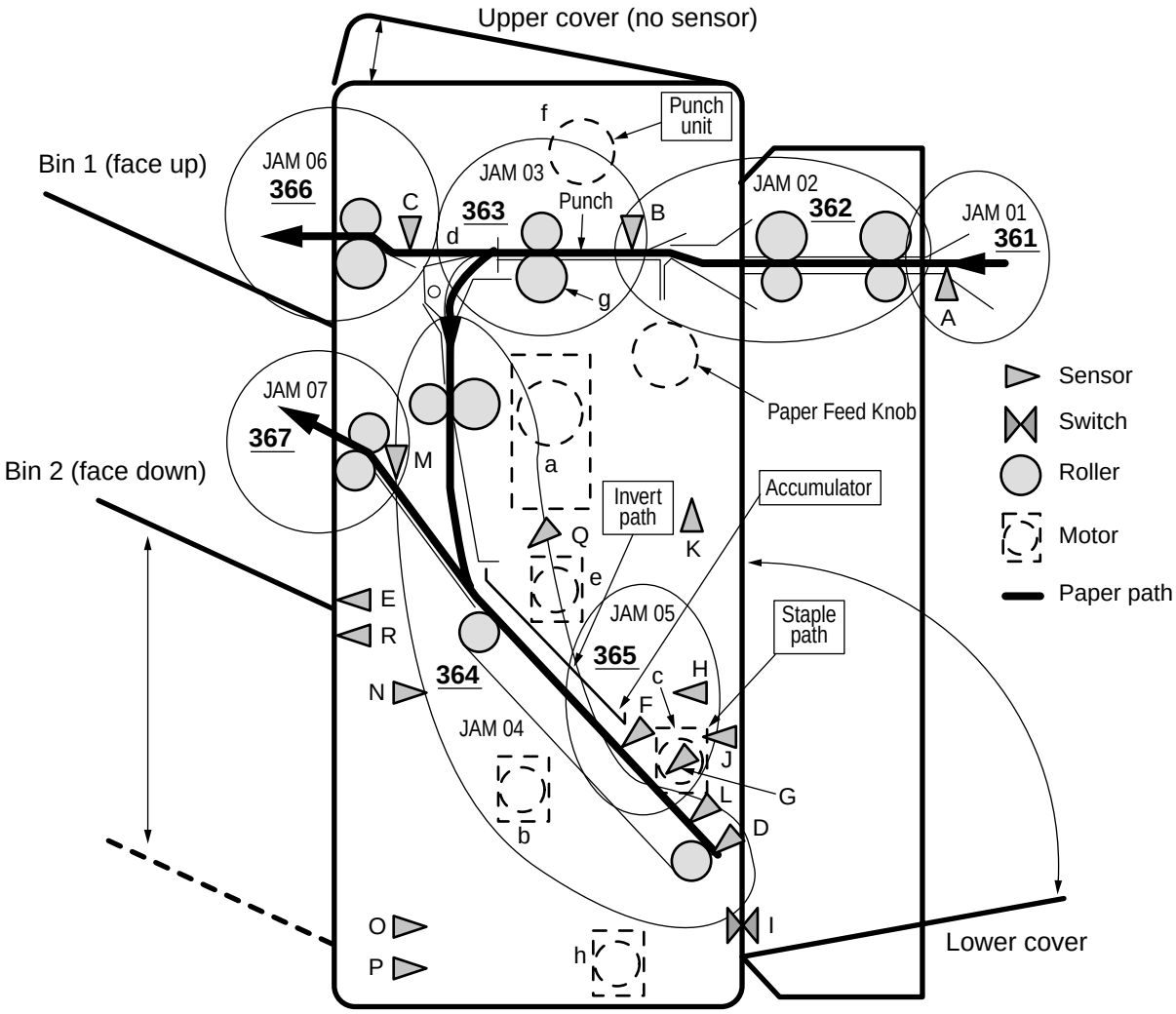


Figure 5.5.2 The position which paper-Jam occurs
*See the Numbers with under line(361-367).

5.5.2 LCD message troubleshooting

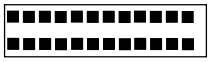
(1) LCD Message

The message on the LCD (liquid crystal display) tells the problem situation of the printer. Implement the appropriate troubleshooting base on the message.

No.	Problem	Flowchart Number
1	The printer does not work normally after being turned on.	①
2	JAM Error	
	Paper Input Jam (1st Tray)	②-1
	Paper Input Jam (MT)	②-2
	Paper Feed Jam	②-3
	Paper Eject Jam	②-4
	DUPLEX Jam	②-5
3	Paper Size Error	③
4	I/D Unit Up/Down Error	④
5	Fuser Unit Error	⑤
6	Fan Motor Error	⑥

Note: When replacing the engine board (L73 PWB), demount the EEPROM chip from the old board and remount it on the new one.

① The printer does not work normally after turned on.

- Turn off the printer, wait a few seconds, then turn it on again.
- Is  displayed on the LCD (for about 1 second)?

  - No Is the AC cable connected correctly?

    No Connect the AC cable correctly.

  - Yes Is +5V supplied to the PANEL connector pins on the PU board (K73 PWB)?
    +5V: Pin 5 0V: Pin 2

    Yes Is the operator panel cable connected correctly?

    No Connect the cable correctly.

    Yes Replace the operator panel cable. Recovered?

    No Replace the cover assembly of the operator panel.

    Yes End

  - No Is +5V supplied on the POWER connector of the engine board (K73 PWB)?
    Pin 11,12, 13, 14: +5V Pin 3, 4, 5, 6, 23, 24, 25, 26, 27, 28, 29, 30: 0V

    No Check the connection of the POWER connector, or replace the low-voltage power supply unit.

  - Yes Replace the engine board.

- Yes Are the following voltages supplied to the PU connector of the main board?
  Pin 137-147, 187-197: +5V Pin 125-136, 175-186: +3.3V
  Pin 148, 198: +12V Pin 101-124, 149-174, 199, 200: 0V

  Yes Is the main board assy inserted correctly?

  No Insert it correctly.

  Yes Replace the main board.

- No Are the following voltages supplied on the POWER connector of the engine board?
  Pin 11, 12, 13, 14: +5V Pin 15, 16, 17, 18: +3.3V
  Pin 1: +12V Pin 2: -12V Pin 7, 8, 9, 10: +32V
  Pin 3, 4, 5, 6, 25, 26, 27, 28: 0V

  Yes Replace the engine board.

- No Replace the low-voltage power supply unit.

②-1 Paper Input Jam (1st Tray)

Does the jam occur soon after the printer is turned on?

Yes Is the paper jammed at the entrance cassette sensor or the entrance MT sensor ?
* MT : Multipurpose Tray

Yes Remove the jammed paper.

Ⓐ

No Do the sensor levers (of the entrance cassette sensor and the entrance MT sensor) operate normally?

No Replace the defective sensor lever.

Yes Do the sensors (the entrance cassette sensor and the entrance MT sensor) work properly? (Operate each sensor lever and verify the signal on the FSENS connector pins on the PU board (K73 PWB).)
Pin 4: Entrance cassette sensor, Pin 2: Entrance MT sensor

No Check the signal cable connection, or replace the sensor board (R71 PWB).

Yes Check the signal cable connection, or replace the engine board (K73 PWB).

No Does the paper jam occur immediately after the paper is fed?

Yes Does the paper reach the entrance cassette sensor or the entrance MT sensor?

Yes Go to Ⓐ.

No Replace the feed roller or the Retard Pad assy in the paper tray.

No Is the feed motor rotating?

Yes Replace the feed roller.

No Is the resistance of the feed motor at the rated value (approx. 7.9 or 8.4 Ω)?

No Replace the feed motor.

Yes Is +32V supplied to the POWER connector Pins 7~10 on the engine board?

No Replace the low-voltage power supply unit.

Yes Check gear engagement and cable connection, or replace the engine board.

②-2 Paper Input Jam (Multipurpose Tray (MT))

- Does the paper jam occur immediately after the printer is powered on?
  - Yes: Is the paper jammed at the entrance cassette sensor or the entrance MT sensor ?
    - Yes: Remove the paper jam.
    - No Ⓐ: Does the lever of the entrance MT sensor operate normally?
      - No: Replace the defective sensor lever.
      - Yes: Does the entrance MT sensor work properly?
        (Operate the sensor lever and confirm that the sensor works properly with the signal on the FSENS connector pin on the engine board (K73 PWB).)
        Pin 2: Entrance MT sensor
        - No: Check the connection of the signal cable, or replace the sensor board (R71 PWB).
        - Yes: Check the signal cable connection, or replace the engine board.
  - No: Does the paper jam occur immediately after paper is fed?
    - Yes: Does the paper reach the entrance MT sensor ?
      - Yes: Go to Ⓐ.
      - No: Replace the multipurpose tray assembly.
    - No: Does the registration motor rotate properly?
      - No: Is +32V supplied to the POWER connector Pins 7~10 on the engine board?
        - No: Replace the low-voltage power supply unit.
        - Yes: Check the connection of cables, or replace the engine board.
      - Yes: Go to ②-3 Paper Feed Jam.

②-3 Paper Feed Jam

- Does the paper jam occur immediately after the printer is powered on?
  - Yes Is the paper jammed at the entrance belt sensor?
    - Yes Remove the jammed paper.
    - Ⓐ
  - No Does the lever of the write sensor work right?
    - No Replace the lever of the write sensor.
  - Yes Does the entrance belt sensor work properly?
    (Operate the sensor lever and verify the signal on the FSENS connector pin on the engine board (K73 PWB).)
    Pin 6: Entrance belt sensor
    - No Check the connection of the cable, or replace the sensor board (R71 PWB).
  - Yes Check the signal cable connection. Is it attached properly?
    - No Connect the cable properly.
  - Yes Replace the engine board.
- No Does the paper jam occur immediately after paper is fed?
  - Yes Does the paper reach the write sensor?
    - Yes Go to Ⓐ.
  - No Is the registration motor rotating?
    - No Is the resistance of the registration motor at the rated value (approx. 7.9 Ω)?
      - No Replace the registration motor.
    - Yes Check the gear engagement, or replace the engine board.
  - Yes Replace the resistration roller (A) or (B).
- No Does the paper jam occur when paper is loaded?
  - Yes Does the belt motor rotate properly?
    - No Is the resistance of the belt motor at the rated value (approx. 7.9 Ω)?
      - No Replace the belt motor.
    - Yes Check gear engagement, or replace the engine board.
  - Yes Check gear engagement, or replace the belt assy.
- No End

②-4 Paper Eject Jam

- Does the paper jam occur immediately after the printer is powered on?
  - Yes Is the paper jammed at the ejection sensor?
    - Yes Remove the jammed paper.
  - No Does the lever of the ejection sensor operate normally?
    - No Replace the ejection sensor lever.
  - Yes Does the ejection sensor work properly?
    (Operate the sensor lever and confirm that the sensor works properly or verify the signal on the PARTTEMP connector Pin 8 on the engine board (K73 PWB).)
    Pin 8: Ejection sensor
    - No Check the signal cable connection, or replace the ejection sensor.
  - Yes Replace the engine board.
- No Dose the heat motor rotate properly?
  - No Is the resistance of the heat motor at the rated value (approx. 7.9 Ω)?
    - No Replace the heat motor.
  - Yes Is +32V supplied to the POWER connector Pins 7~10 on the engine board?
    - No Replace the low-voltage power supply unit.
  - Yes Check the connection of the cables, or replace the engine board.
- Yes Does the paper separator operate normally?
  - No Does the paper separator solenoid work normally?
    - No Check the cable connection, or replace the solenoid or the engine board.
  - Yes Replace the paper separator assy.
- Yes Replace the eject guide assy.

②-5 DUPLEX jam

- Does the paper jam occur immediately after the printer is turned on?
  - Yes Is the paper jammed at the in sensor, rear sensor or front sensor in the DUPLEX unit?
    - Yes Remove the jammed paper.
  - No Do the in sensor, rear sensor and front sensor in the DUPLEX unit operate properly?
    - No Replace the defective sensor.
  - Yes Check the cable connections at the in sensor, rear sensor and front sensor of the DUPLEX unit, or replace the DUPLEX unit board (V73 PWB).
- No Does the paper jam occur immediately after paper is fed into the DUPLEX unit?
  - Yes Is the DUPLEX motor rotating?
    - No Replace the DUPLEX motor.
  - Yes Check gear engagement or replace the DUPLEX board (V73 PWB).
- Yes Replace the DUPLEX unit.

③ Paper Size Error

Is paper in the specified size used?

No Use paper that complies with the specification.

Yes Is the paper jammed at the entrance MT sensor or at the paper width sensor?

Yes Remove the jammed paper.

Yes Does the lever of the entrance MT sensor operate normally?

No Replace the defective sensor lever.

Yes Does the entrance MT sensor work properly?
(Operate the sensor lever and verify the signal on the FSENS connector pin on the engine board (K73 PWB).)
Pin 4: Entrance MT sensor

No Check cable connection, or replace the sensor board (R71 PWB).

Yes Does the lever of the entrance belt sensor operate normally?

No Replace the defective sensor lever.

Yes Does the entrance belt sensor work properly?
(Operate the sensor lever and confirm that the sensor works properly, verify the signal on the FSENS connector pin on the engine board (K73 PWB).)
Pin 6: Entrance belt sensor

No Check cable connection or replace the sensor board (R71 PWB).

Yes Do all the paper-size detecting switches on the size detecting board (B73 PWB) work right?
(Press the paper-size detecting switches and verify the signal on the engine board PSIZE connector pins.)
Pin 3: Paper size detector 1
Pin 4: Paper size detector 2
Pin 5: Paper size detector 3
Pin 6: Paper size detector 4

No Check cable connection, or replace the size detecting board (B73 PWB).

Yes Check cable connection, or replace the engine board.

④ Image Drum Unit (IDU) Up/Down Error

- Turn off the printer, wait a few seconds, then turn it on again.

Does each drum unit rotate properly while printing?

- No Is the resistance of the IDU motor at the rated value (approx. 4.0 Ω)?

  No Replace the defective IDU motor.

- Yes Is +32V supplied to the POWER connector Pins 7~10 on the engine board?

  No Replace the low-voltage power unit.

- Yes Check cable connection, or replace the engine board.

Yes Does the IDU sensor lever work adequately?

- No Check gear engagement and the sensor lever operation, or replace the defective gear or sensor lever.

Yes Does the IDU sensor operate properly?
Verify the signal on the JODEN connector pins on the driver board (K73 PWB).
Pin 4: IDU sensor cyan
Pin 14: IDU sensor black
Pin 2: IDU sensor magenta
Pin 12: IDU sensor yellow

No Replace the junction board (N73 PWB).

Yes Check the cable connection between the junction board (N73 PWB) and engine board (K73 PWB), or replace the engine board.

⑤ Fuser Unit Error

Does the fuser error occur immediately after the printer is turned on?

Ⓐ

Yes Does the heat roller thermistor have a open or short circuit? (See Figure 5.1.)
(at room temperature 0 °C~ 43 °C, approx. 190 ~ 980 Ω)

Yes Replace the fuser unit.

No Does the back-up roller thermistor have a open or short circuit? (See Figure 5.1.)
(at room temperature 0 °C~ 43 °C, approx. 190 ~ 980 Ω)

Yes Replace the fuser unit.

No

No Does the fuser error occur about 3 min. after the printer is turned on?

• No Go to Ⓐ.

Yes Is the fuser's heater on? (Does it get hot?)

Yes Replace the engine board.

No Replace the fuser unit.

No Does AC voltage appear between CN1 connector Pin 1 and Pin3 of the low-voltage power supply unit?

No Replace the low-voltage power supply unit.

Yes Replace the fuser unit.

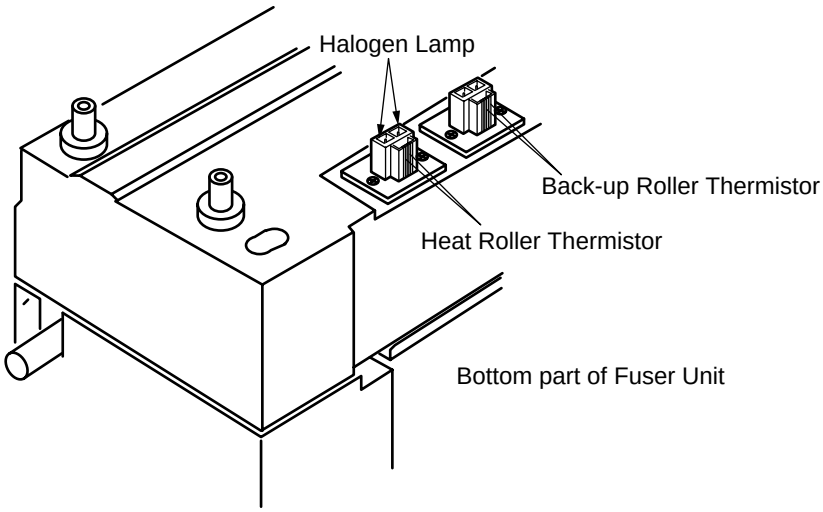


Figure 5.1

⑥ Fan Motor Error

- Does the fan of the low-voltage power supply unit rotate after the printer is turned on?
  - Yes: Does the error recur after the fan of the low-voltage power supply unit has been replaced?
    - Yes: Replace the low-voltage power supply unit.
  - No: End
- Yes: Does the engine board fan rotate after the printer is turned on?
  - No: Is +32V supplied to the FAN connector Pin 1 on the engine board (K73 PWB)?
    - No: Is +32V supplied to the POWER connector pins on the engine board (K73 PWB)?
      +32V: Pin 7, 8, 9, 10
      - No: Check cable connection or replace the low-voltage power supply unit.
    - Yes: Replace the engine board.
  - Yes: Replace the fan of the engine board.
- Yes: Does the fuser fan rotate after the printer is turned on?
  - No: Is +32V supplied to the JOBOFF connector Pin 5 on the engine board (K73 PWB)?
    - No: Is +32V supplied to the POWER connector pins on the engine board (K73 PWB)?
      +32V: Pin 7, 8, 9, 10
      - No: Check cable connection, or replace the low-voltage power supply unit.
    - Yes: Replace the engine board.
  - Yes: Replace the fuser fan.
- Yes: End

5.5.3 Image troubleshooting

When the printout images are not satisfactory as shown below, follow the troubleshooting procedures given in this section.

Printout problem	Flowchart No.
Light or blurred images, or images in inappropriate color tone (Figure 5.2-Ⓐ)	①
Dark background (Figure 5.2-Ⓑ)	②
No images on print output (Figure 5.2-Ⓒ)	③
Band/stripes in black or color in the longitudinal direction (Figure 5.2-Ⓓ)	④
Band/stripes in white or irregular color in the longitudinal direction (Figure 5.2-Ⓕ)	⑤
Poor fusing (Images are blurred or peeled off when touched with a hand.)	⑥
Cyclical printout defects (Figure 5.2-Ⓔ)	⑦
Missing characters	⑧
Color misalignment	⑨
Printout colors different from the original	⑩

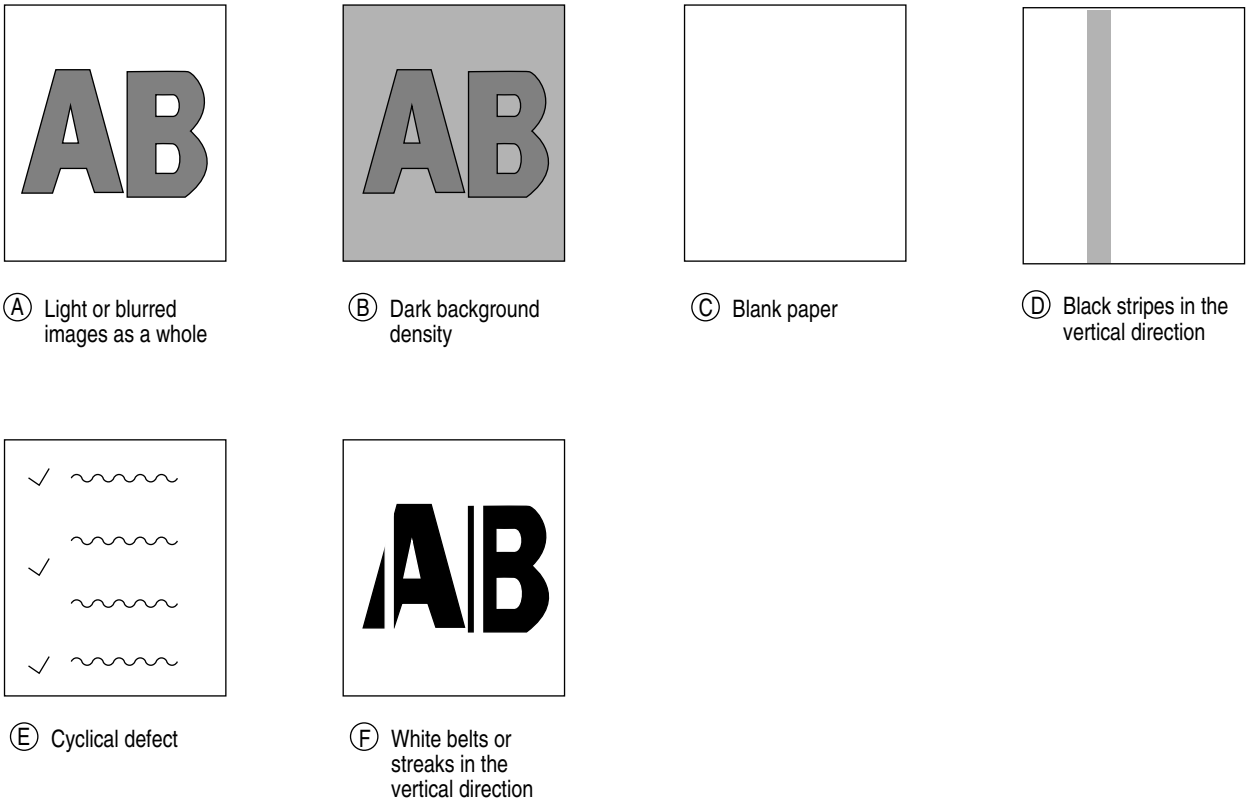


Figure 5.2

① Light or blurred images or images in inappropriate color tone on the whole printout area
(Figure 5.2-Ⓐ)

Is toner low? (Is the message "Toner Low" displayed?)

Yes Supply toner.

No Is the specified paper used?

No Use the specified paper.

Yes Is the lens of the LED head dirty?

Yes Clean the LED head lens.

No Is each LED head assy connected properly to the junction board (Y71 PWB) and engine board (K73 PWB)?

No Check the cable connection (between each LED head and the engine board) and connect the cable between the LED head and the engine board properly.

Yes Is +3.8V supplied to the following POWER connector pins on the junction board(Y71 PWB)?
+3.8V: Pins 1, 2, 3, 4, 5, 6, 7 and 8

Yes Is +3.8V supplied to each LED head assy from the junction board (Y73 PWB)?
YPOW connector Pin 3: LED head assy yellow
MPOW connector Pin 3: LED head assy magenta
CPOW connector Pin 3: LED head assy cyan
BPOW connector Pin 3: LED head assy black

No Replace the junction board (Y71 PWB).

Yes Check the cable connection, or replace the LED head assy.

No Check the cable connection, or replace the low-voltage power supply unit. Recovered?

Yes End

No Is +32V supplied to the POWER connector pins on the engine board (K73 PWB)?
+32V: Pins 7, 8, 9 and 10

No Check cable connection, or replace the low-voltage power supply unit.

Yes Is +32V supplied to the HVOLT connector Pin 5 on the engine board (K73 PWB)?

No Replace the engine board.

Yes Check the cable connection, replace the high-voltage power unit, or belt cassette assembly. Recovered?

Yes End

No Is each ID terminal connected correctly to the contact assembly? (See Figure 5.3.)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2.

② Dark background (Figure 5.2-Ⓑ)

Was each ID exposed to external light for a long time?

Yes Replace the ID unit. ***Note:*** Reset the counter after replacement.

No Are the rollers in the fuser unit contaminated?

Yes Replace the fuser unit.

No Adjust the setting of “MEDIA TYPE”.
Light: 60 g/sq.m. Med. light: 64~74 g/sq.m. Medium: 75~90 g/sq.m.
Med. heavy: 91~104 g/sq.m. Heavy: 105~122 g/sq.m. Ultra heavy: 123~175 g/sq.m.

No Set the “MEDIA TYPE” properly.

No Is each LED head assy connected to the junction board(Y71 PWB) correctly?

No Connect each LED head assy to the junction board(Y71 PWB) appropriately.

Yes Is +3.8V supplied to the following POWER connector pins on the junction board (Y71 PWB)?
+3.8 V: Pins 1, 2, 3, 4, 5, 6, 7 and 8

Yes Is +3.8V supplied to the following cable connector pins between the junction board (Y71 PWB) and each LED head assy?
YPOW connector Pin 3: LED head assy yellow
MPOW connector Pin 3: LED head assy magenta
CPOW connector Pin 3: LED head assy cyan
BPOW connector Pin 3: LED head assy black

No Replace the junction board(Y71 PWB).

Yes Check the cable connection, or replace the LED head assy.

No Check the cable connection, or replace the low-voltage power supply unit. Recovered?

Yes End

No Is +32V supplied to the POWER connector pins on the engine board (K73 PWB)?
+32V: Pins 7, 8, 9 and 10

No Check the cable connection, or replace the low-voltage power supply unit.

Yes Is +32V supplied to the POWER connector pins of the engine board (K73 PWB)?

No Replace the engine board.

Yes Check the cable connection, or replace the high-voltage power supply unit or belt cassette assy. Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.

③ Blank paper (Figure 5.2-Ⓒ)

Is each LED head assembly connected to the junction board (Y71 PWB) and Engine board (K73 PWB)correctly?

No Check the cable connection the LED assembly with the junction board (Y71 PWB) and engine board.

Yes Is +3.8V supplied to the following POWER connector pins on the junction board (Y71 PWB)?
+3.8V: Pin 1, 2, 3, 4, 5, 6, 7, 8

Yes Is +3.8V supplied to the following cable connector pins between the junction board (Y71 PWB) and each LED head assembly?
YPOW connector Pin 3 : LED head assembly yellow
MPOW connector Pin 3 : LED head assembly magenta
CPOW connector Pin 3 : LED head assembly cyan
BPOW connector Pin 3 : LED head assembly black

No Replace the junction board (Y71 PWB).

Yes Check the cable connection, or replace the LED head assembly.

No Is +32V supplied to the POWER connector pins of the engine board (K73 PWB)?
+32V: Pin 7, 8, 9, 10

No Check the cable connection, or replace the low-voltage power supply unit.

Yes Is +32V supplied to the HVOLT connector Pin 5 of the engine board (K73 PWB)?

No Replace the engine board.

Yes Check the cable connection, or replace the high-voltage power supply unit or belt cassette assembly. Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2.

④ Band/stripes in black or color in the longitudinal direction (Figure 5.2-Ⓓ)

Is each LED head assembly connected to the junction board (Y71 PWB) correctly?

No — Connect the LED head assembly to the junction board correctly.

Yes — Check the cable connection, or replace the LED head assembly. Recovered?

Yes — End

No — Check the cable connection, or replace the junction board (Y71 PWB). Recovered?

Yes — End

No — Is the engine board (K73 PWB) connected with the junction board (Y71 PWB) correctly?

No — Connect the engine board with the junction board correctly.

Yes — Check the cable connection, or replace the engine board (K73 PWB). Recovered?

Yes — End

No — Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No — Connect the ID terminals with the contact assembly correctly.

Yes — Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

⑤ Band/stripes in white or irregular color in the longitudinal direction (Figure 5.2-Ⓕ)

Is each LED head lens contaminated?

Yes Clean the LED head lens.

No Is each LED head assembly connected to the junction board (Y71 PWB) correctly?

No Connect the LED head assembly to the junction board (Y71 PWB) correctly.

Yes Check the cable connection, or replace the LED head assembly. Recovered?

Yes End

No Check the cable connection, or replace the junction board (Y71 PWB). Recovered?

Yes End

No Is the engine board (K73 PWB) connected with the junction board correctly?

No Connect the engine board with the junction board correctly.

Yes Check the cable connection, or replace the engine board (K73 PWB). Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

⑥ Poor fusing (Images are blurred or peeled off when touched with a hand.)

Is the specified paper used?

No Use the proper paper.

Yes Is the contact of the fuser unit connected correctly?

No Connect the contact of the fuser unit properly.

Yes Are the rollers in the fuser unit contaminated?

Yes Replace the fuser unit.

No Is the “MEDIA TYPE” (MENU 1) set correctly?.
Light: 60 g/sq.m. Med. light: 64~74 g/sq.m. Medium: 75~90 g/sq.m.
Med. heavy: 91~104 g/sq.m. Heavy: 105~122 g/sq.m. Ultra heavy: 123~175 g/sq.m.

No Set the proper “MEDIA TYPE”.

Yes Does AC voltage appear between the CN connector Pin 1 and Pin 3 of the low-voltage power supply unit?

No Replace the low-voltage power supply unit.

Yes Is the resistance of the heat roller thermistor within the rated value? (See the Figure 5.1)
(at room temperature 0 °C~ 43 °C, approx. 190 ~ 980 Ω)

No Replace the fuser unit.

Yes Is the resistance of the back-up roller thermistor within the rated value? (See the Figure 5.1)
(at room temperature 0 °C~ 43 °C, approx. 190 ~ 980 Ω)

No Replace the fuser unit.

Yes Is the THERM1 signal on the THERM connector Pin 6 on the engine board (K73 PWB) within the range below?

No Replace the fuser unit assy.

Yes Replace the fuser unit assy.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

⑦ Cyclical printout defects (Figure 5.2-Ⓔ)

Cycle	Defective Part	Solution
94.3 mm	Image Drum	Replace the ID unit.
49.6 mm	Developing Roller	Replace the ID unit.
67.6 mm	Toner Supply Roller	Replace the ID unit.
44.0 mm	Charge Roller	Replace the ID unit.
113 mm	Fuser Roller	Replace the fuser unit.
57.8 mm	Transfer Roller	Replace the belt cassette assembly.

Note: After replacement of the ID unit, fuser unit or belt cassette unit, the corresponding counter must be reset in the user maintenance mode.

⑧ Missing characters

Is each LED head lens contaminated?

Yes Clean the lens of LED head.

No Is each LED head assembly connected to the junction board (Y71 PWB) correctly?

No Check the cable connection, and connect the LED head to the junction board correctly.

Yes Is +3.8V supplied to the following HEADPOW connector pins of the junction board (Y71 PWB)?
+3.8V: Pin 1, 2, 3, 4, 5, 6, 7, 8

Yes Is +3.3V supplied to each LED head assembly from the junction board (Y71 PWB)?
YPOW connector Pin 3 : LED head assembly yellow
MPOW connector Pin 3 : LED head assembly magenta
CPOW connector Pin 3 : LED head assembly cyan
BPOW connector Pin 3 : LED head assembly black

No Replace the junction board (Y73 PWB).

Yes Check the cable connection, or replace the LED head assembly.

No Check the cable connection, or replace the low-voltage power supply unit. Recovered?

Yes End

No Is +32V supplied to the POWER connector of the engine board (K73 PWB)?
+32V: Pin 7, 8, 9, 10

No Check the cable connection, or replace the low-voltage power supply unit.

Yes Is +32V supplied to the HVOLT connector pin 5 of the engine board (K73 PWB)?

No Replace the engine board.

Yes Check the cable connection, replace the high-voltage power supply unit or belt cassette assembly. Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

⑨ Color Misalignment

Is any of the following gears broken? (Gear assy of ID unit, Multipurpose Tray, belt unit and belt motor)

Yes Replace the broken gear assembly.

No Is each LED head unit connected to the junction board (Y71 PWB) correctly?

No Connect the LED head unit correctly with the junction board.

Yes Check the cable connection, or replace the LED head assembly. Recovered?

Yes End

No Check the cable connection, or replace the junction board (Y71 PWB). Recovered?

Yes End

No Is engine board (K73 PWB) connected to the junction board (Y71 PWB) correctly?

No Connect the boards correctly.

Yes Check the cable connection, or replace the EEPROM of the engine board. Recovered?

Yes End

No Replace the engine board. Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

⑩ Printout colors different from the original

Is each LED head lens contaminated?

Yes Clean the LED head lens.

No Is each LED head assembly connected to the junction board (Y73 PWB) correctly?

No Check the cable connection (between each LED head and the junction board) and connect the LED assy to the junction board correctly.

Yes Is +3.8V supplied to the following HEADPOW connector pins of the junction board (Y71 PWB)?
+3.8V: Pin 1, 2, 3, 4, 5, 6, 7, 8

Yes Is +3.8V supplied to each LED head assembly from the junction board (Y71 PWB)?
YPOW connector Pin 3 : LED head assembly yellow
MPOW connector Pin 3 : LED head assembly magenta
CPOW connector Pin 3 : LED head assembly cyan
BPOW connector Pin 3 : LED head assembly black

No Replace the junction board (Y71 PWB).

Yes Check the cable connection, or replace the LED head assembly.

No Check the cable connection, or replace the low-voltage power supply unit. Recovered?

Yes End

No Is +32V supplied to the POWER connector of the engine board (K73 PWB)?
+32V; Pin 7, 8, 9, 10

No Check the cable connection, or replace the low-voltage power supply unit.

Yes Is +32V supplied to HVOLT connector pin 5 of the engine board (K73 PWB)?

No Replace the engine board.

Yes Check the cable connection, replace the high-voltage power supply unit or belt cassette assembly. Recovered?

Yes End

No Is each ID terminal connected to the contact assembly correctly? (See Figure 5.3)

No Connect the ID terminals with the contact assembly correctly.

Yes Replace the ID unit.

Notes: 1. When replacing the engine board (K73 PWB), demount the EEPROM chip from the old engine board and remount it on the new one.
2. In case the EEPROM chip is not replaced, see Item (2) in Sec. 5.5.2

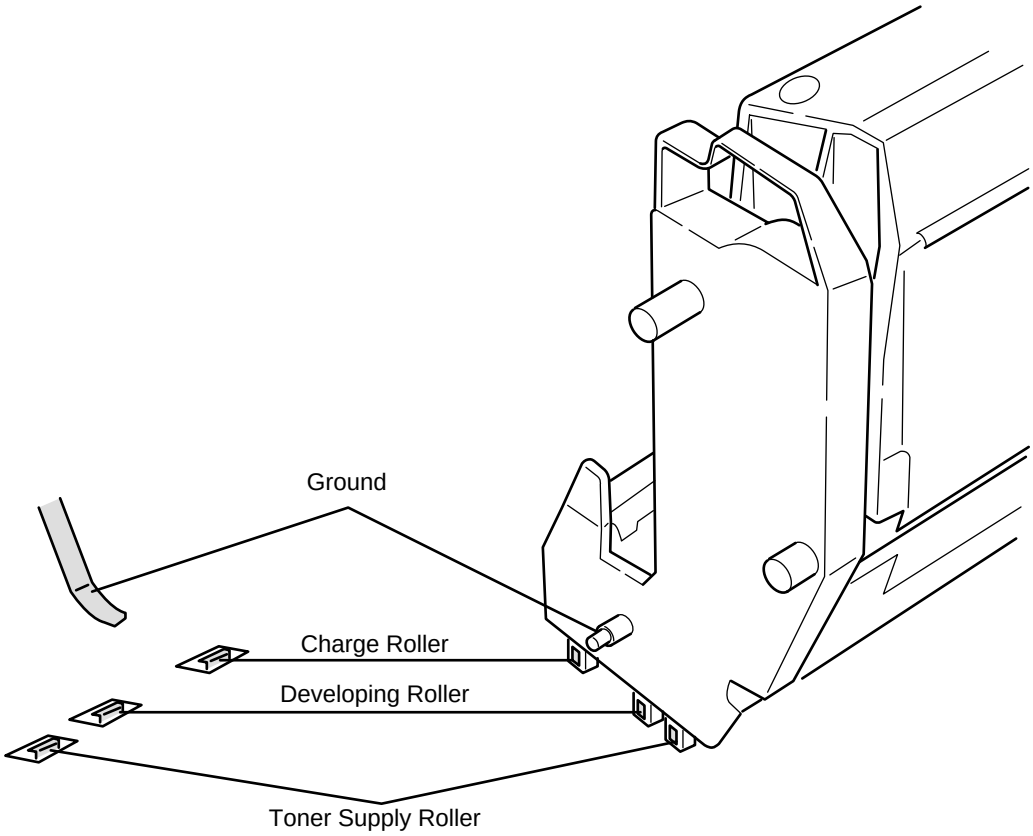
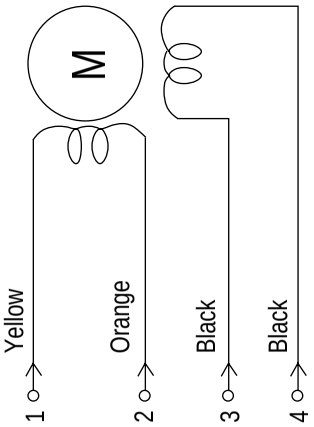
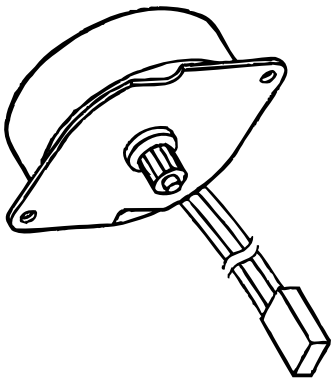
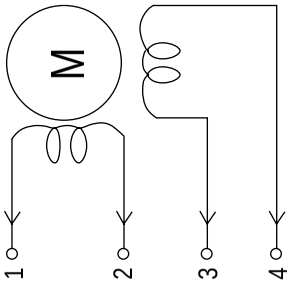
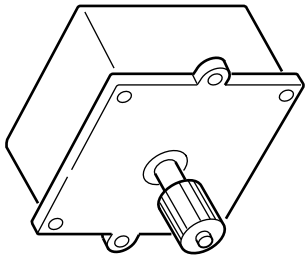
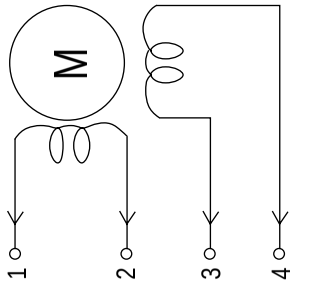
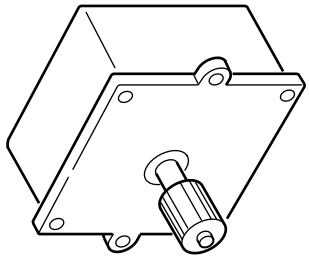
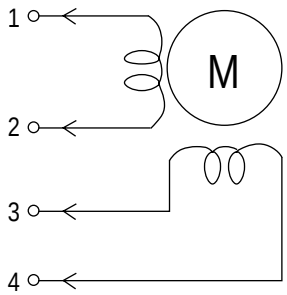
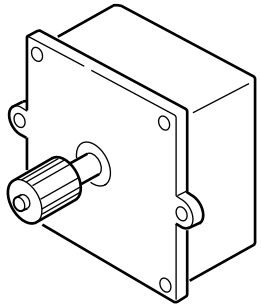
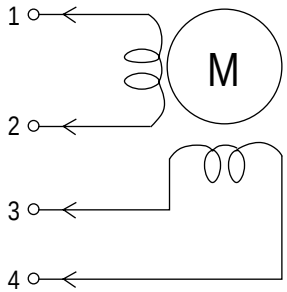
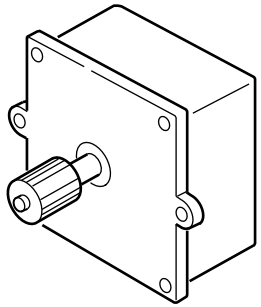
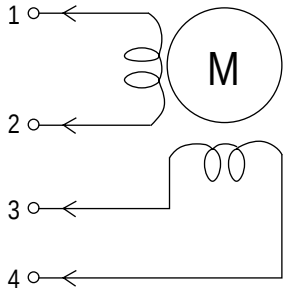
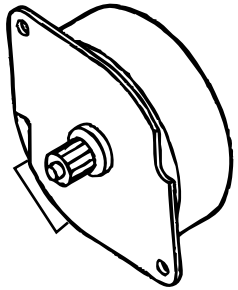

Ground
Charge Roller
Developing Roller
Toner Supply Roller

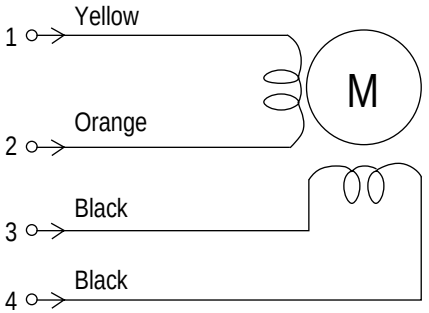
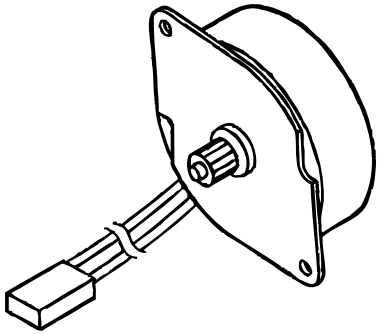
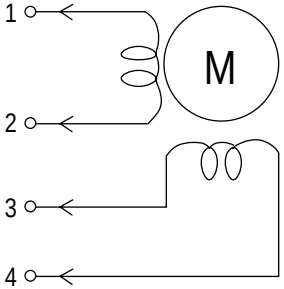
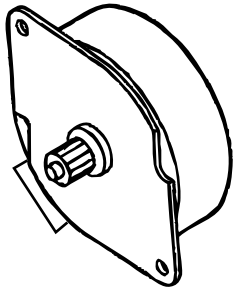
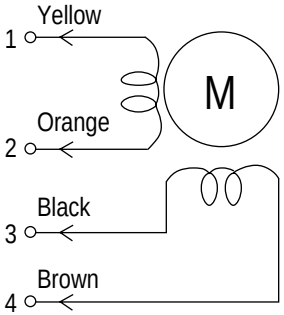
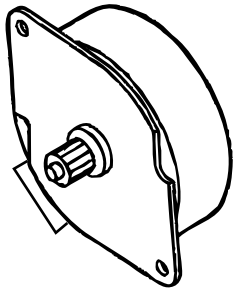
Figure 5.3

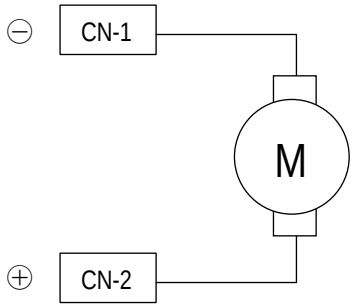
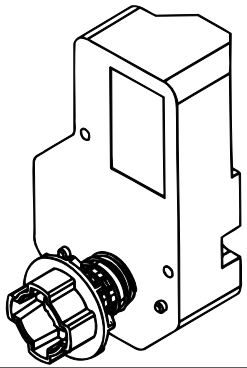
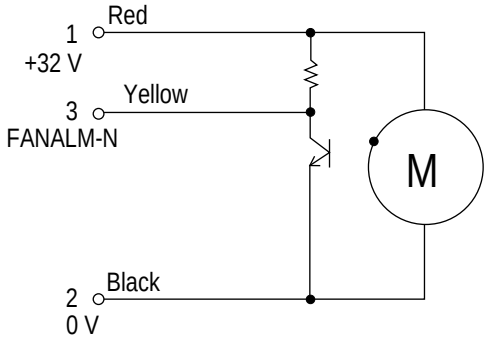
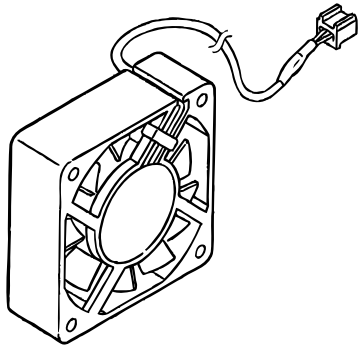
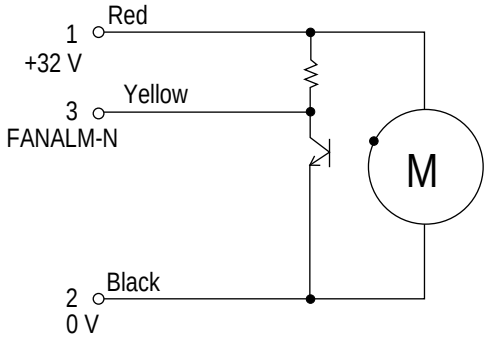
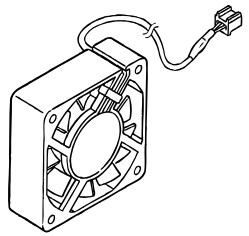
6. WIRING DIAGRAM

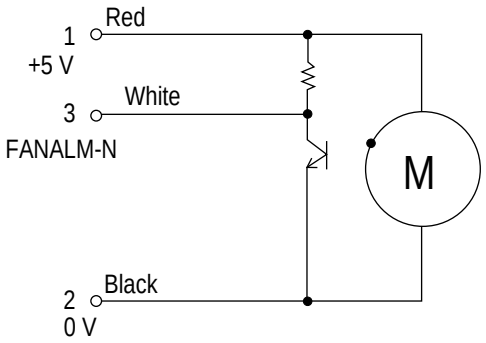
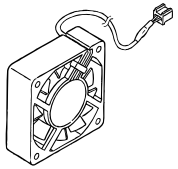
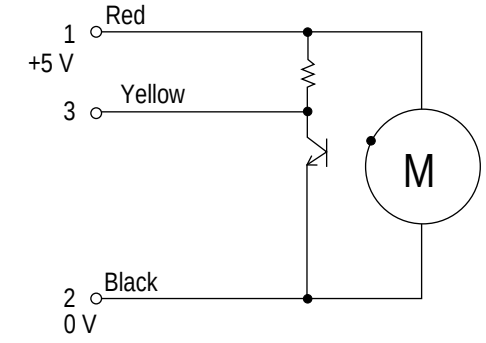
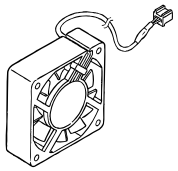
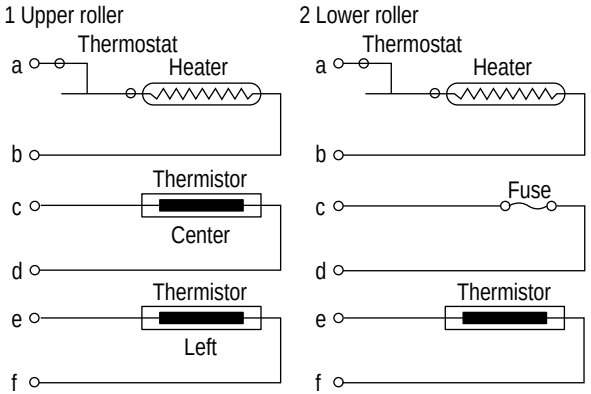
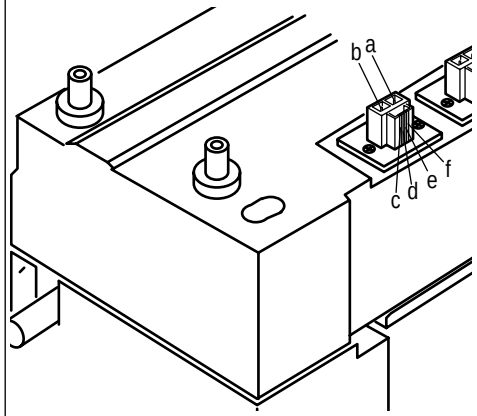
6.1 Resistance Check

Unit	Circuit Diagram	Illustration	Resistance
Transfer Belt Motor			Between pins 1 and 2: 7.9Ω Between pins 3 and 4: 7.9Ω
Main Motor (Y)			Between pins 1 and 2: 2.4Ω Between pins 3 and 4: 2.4Ω
Main Motor (M)			Between pins 1 and 2: 2.4Ω Between pins 3 and 4: 2.4Ω

Unit	Circuit Diagram	Illustration	Resistance
Main Motor (C)			Between pins 1 and 2: 2.4Ω Between pins 3 and 4: 2.4Ω
Main Motor (B)			Between pins 1 and 2: 2.4Ω Between pins 3 and 4: 2.4Ω
MT Resistration Motor			Between pins 1 and 2: 7.9Ω Between pins 3 and 4: 7.9Ω

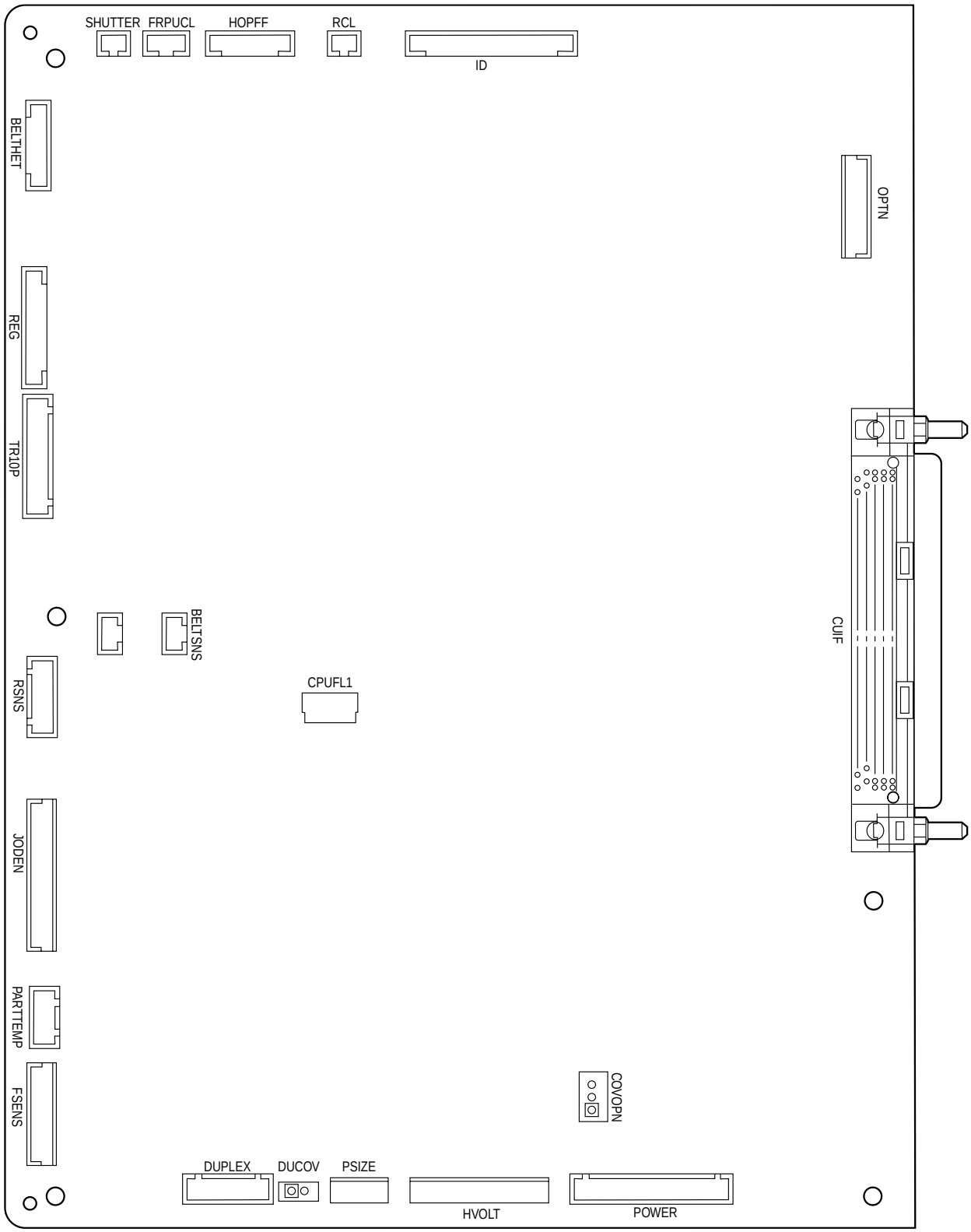
Unit	Circuit Diagram	Illustration	Resistance
Fuser Motor			Between pins 1 and 2: 7.9Ω Between pins 3 and 4: 7.9Ω
Feeder Motor			Between pins 1 and 2: 7.9Ω or 8.4Ω Between pins 3 and 4: 7.9Ω or 8.4Ω
Offset Motor			Between pins 1 and 2: 23Ω Between pins 3 and 4: 23Ω

Unit	Circuit Diagram	Illustration	Resistance
Geared Motor			
CU Low-voltage Ejection Fuser Fan			
Low-voltage Absorption			

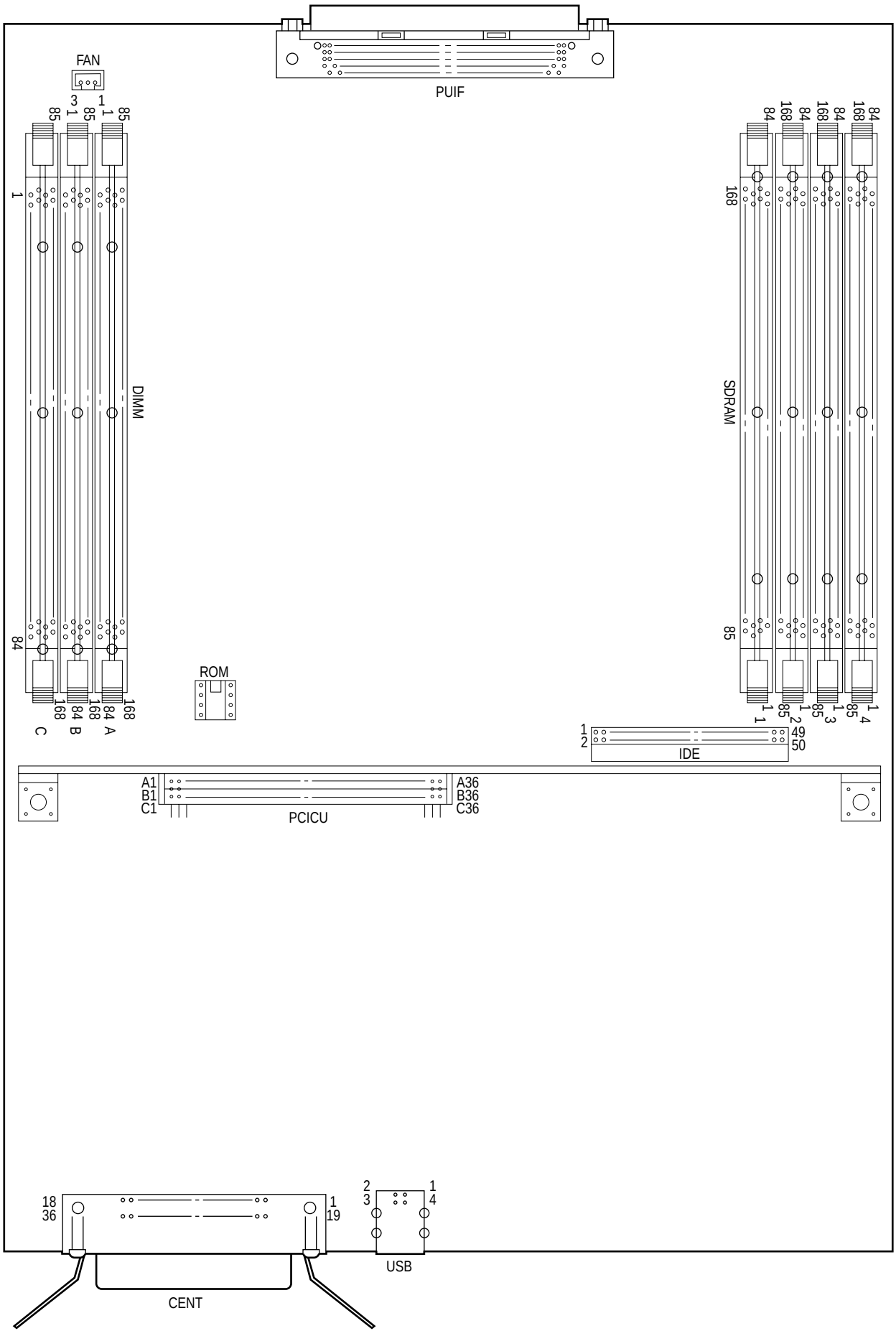
Unit	Circuit Diagram	Illustration	Resistance
CU Board			
ID and Fuser			
Fuser Unit			① Between pins a and b: Between pins c and d: 231.4kΩ Between pins e and f: 231.4kΩ (at 25°C) ② Between pins a and b: Between pins c and d: 0Ω or open Between pins e and f: 231.4kΩ (at 25°C)

6.2 Parts Layout on Boards

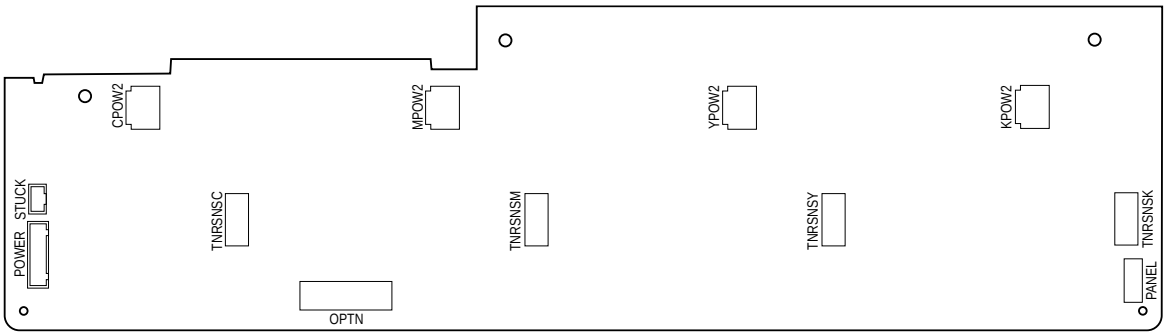
(1) Print Engine Controller PWB (K73)



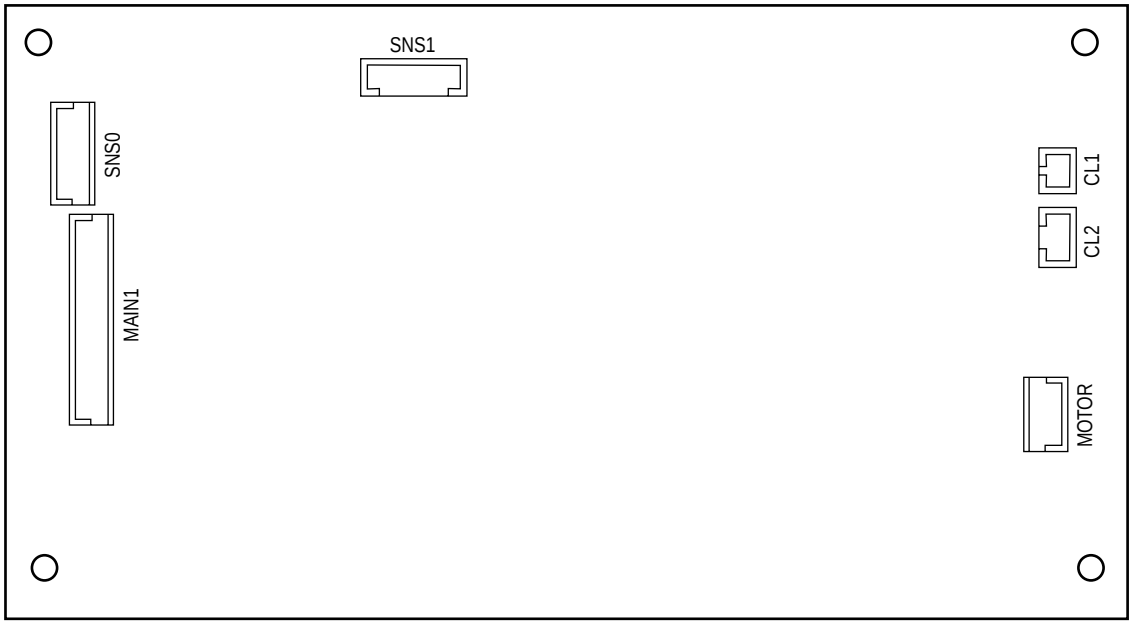
(2) Main Controller PWB: SWA



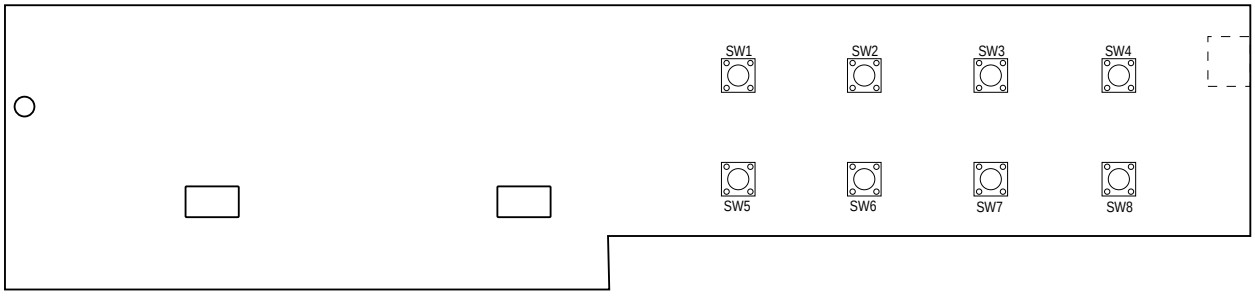
(3) LED Control PWB (Y71-2 PWB)



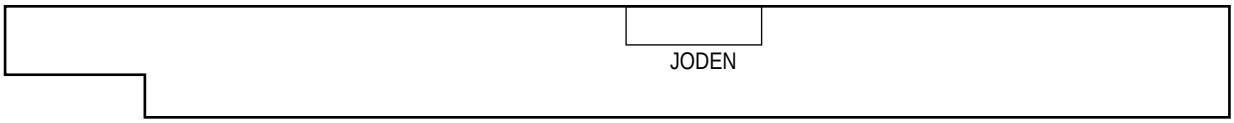
(4) Duplex Control PWB (V73- PWB)



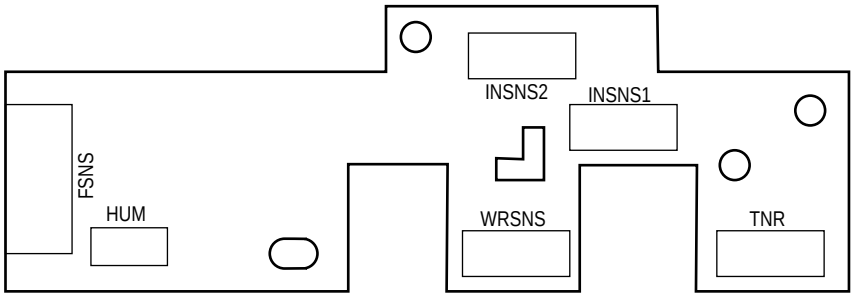
(5) Control Panel PWB (X71- PWB)



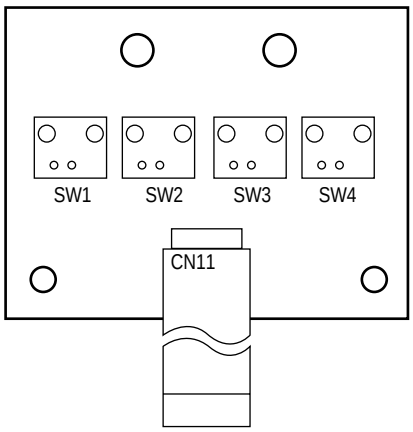
(6) N71-PWB



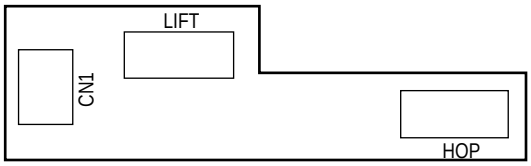
(7) Entrance Sensor PWB (R71- PWB)



(8) Paper Size Sensing PWB PXC (B73- PWB)



(9) Sensor PWB (A73-PWB)



(10) Option I/F PWB (C73-PWB)